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THE ADMINISTRATOR OF NATIONAL BANKS

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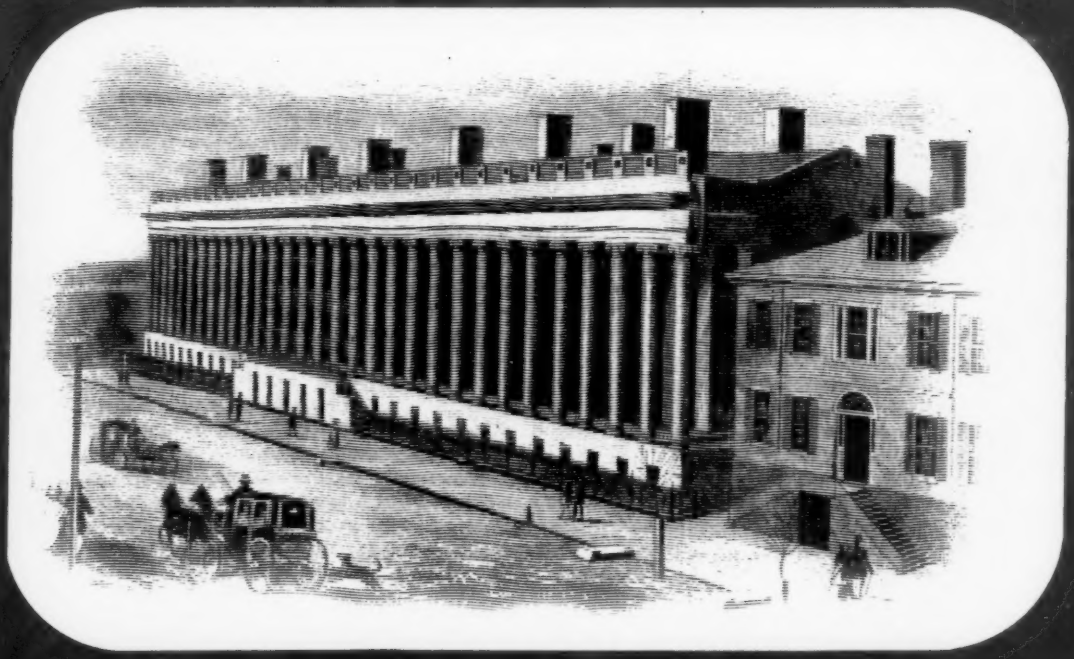

Articles on

- Selective Taxes and Balance of Payments
- Interest Rate Regulation
- Demand Deposit Interest
- Balance of Payments Guidelines
- Bank Trust Investments in 1965
- Leverage and the Cost of Capital
- Proximate Objectives of Monetary Policy
- Bank Lending to Small Business
- Interest Rates on Direct Leases

- Notes and Comments
- Legal and Regulatory Developments
- Selected Statistical Data
- Book Reviews

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JAMES J. SAXON
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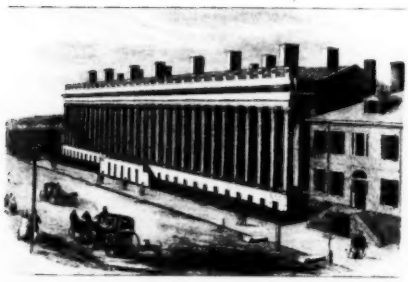

ON THE COVER—The Treasury Building as it looked from 1840 to 1855, when the south wing was added. The site, which was chosen by the President, was originally to provide an uninterrupted view along Pennsylvania Avenue from the Capitol to the White House. As the story goes, President Jackson became impatient at the delay in the selection and one morning banged his cane on the northeast corner.

"Here, right here, I want the corner stone laid."

— PRESIDENT ANDREW JACKSON, 1836

►FRANCESCO FORTE and IRA O. SCOTT, JR.

The Use of Selective Taxes as a Means of Achieving Balance of Payments Equilibrium

I. *Introduction*

It has been alleged, in some quarters, that a central bank's attempt to achieve domestic economic stability may be frustrated by the effects of international capital flows induced by the domestic stabilization program. Thus, the argument runs, the same high interest rate generated by a domestic restriction of the money supply in turn stimulates an inflow of capital from abroad. In this way, money from abroad replaces money destroyed by monetary policy at home; and "inflation is imported."

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Similarly, an expansionary monetary policy may be vitiated by the capital exodus that results from the relatively low interest rate produced by the self-same expansionary policy. In this instance, "expansion (or inflation) is being exported."[1]

[1] The contrast between domestic and foreign stability objectives has been theorized by R. Mundell in "The Appropriate Use of Monetary and Fiscal Policy for Internal and External Stability," *International Monetary Fund Staff Papers*, IX, March 1962, 70-79; and "Capital Mobility and Stabilization Policy Under Fixed and Flexible Exchange Rates," *Canadian Journal of Economics and Political Science*, November 1963.

The "imported inflation" argument has often been raised by Western European central bankers. See the statements of William McChesney Martin, U.S., Cong., House, Committee on Banking and Currency, *Hearings, The Continuing Deficit of our Balance of Payments and the Resulting Outflow of Gold*, 89th Cong., 1st Sess., 1965, Part 1, p. 133 (cited

On closer examination, the twin theses that "inflation may be imported *or* exported" in less than perfect international financial markets reveal a certain asymmetry. On the one hand, when confronted by imported inflation, a central banker may be consoled by the fact that successive injections of foreign capital will tend to be reflected in claims of deteriorating quality as the country's external debt rises relatively to its debt-carrying capacity. Consequently, the capital inflow is likely to narrow, assuring, thereby, the eventual success of the central bank's restrictive policy.

The possibility of defeat for an expansionary policy, on the other hand, is very real. The "rest of the world sector" is bigger than a single country. Therefore, one can expect a substantial exodus of capital before investors become deterred by the rising ratios of foreign to domestic claims in their portfolios. Eventually, of course, the adjustment must come. But in the meantime, alas, the subject country may suffer a depletion of its foreign exchange reserves.

In the event central banks fail to act effectively, for whatever reason, when confronted by either kind of international "inflationary capital movement," they may be consoled by the availability of an effective alternative regulatory instrument, namely, tax policy.

We are not referring here to the aggregative aspects of fiscal policy, the change in the level of the budgetary surplus or deficit. Rather, we are interested primarily in the direct effect upon international capital movements of a specific tax on income from the capital in question.

In capital market theory, the interest rate is normally identical for both creditor and debtor. A higher rate of interest, while dissuading borrowing, will entice new lending. A lower rate will encourage borrowing but discourage lending. If the capital market is international in character, changes in the interest rate stimulate capital flows across national boundaries. A tax on interest or dividend payments, on the other hand, may enter as a wedge between the debtor and the creditor. Thus, an increase in such a tax may increase the interest rate for the debtor without increasing it (or while reducing it) for the creditor, while a decrease in the tax may reduce it for the debtor without reducing it for the creditor.

Under the assumption that short-term international capital flows are sensitive to short-term rates of interest, while domestic investment outlays are affected by long-term rates, "operation twist" was launched in the United States as a means of simultaneously keeping short-term capital at home while stimulating domestic investment. Here, again, tax policy may be a much more powerful tool. If the existing long-term interest rate is appropriate for investment outlays but the short-term rate is unsatisfactory for international capital movements considerations, a reduction in the tax on short-term maturities might be employed to obtain the desired "twist."[2] If the existing long-term interest rate is considered too high while the short-term appears appropriate, the tax on long-term rates may be reduced.[3]

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hereafter as House Committee on Banking and Currency, *Continuing Deficit of our Balance of Payments Hearings*, 1965.)

The argument is criticized by Ira O. Scott, Jr. and Wilson E. Schmidt in their article, "Imported Inflation and Monetary Policy," *Banca Nazionale del Lavoro Quarterly Review*, n. 71, December 1964, pp. 390-403; "Comment" of Peter Oppenheimer and "Reply" in the same *Review*, n. 73, June 1965, pp. 197-200; see also J. Tobin, "Europe and the Dollar," *Review of Economics and Statistics*, XLVI, May 1964, 123-126.

[2] It is assumed here, of course, that the initial yield pattern is positively sloped.

[3] Obviously, whether one begins with an interest rate appropriate for the long term but too low for the short, or with an interest

The availability of the selective tax device reduces the burden on monetary policy of reconciling external and internal stabilization objectives. In addition, the selective tax instrument may be employed within a common market as a substitute for the direct controls on capital movements which are necessary to provide freedom of action for the central banks in promoting domestic growth and stability.

The tax device we are discussing may be adopted by either the capital-exporting or -importing country. It may be applied to transactions generally, or limited according to the residency of the transactors, the location of the transaction, or the maturity of the claim growing out of the transaction.

II. *A General Withholding Tax on Interest*

Let us begin with the case of a withholding tax covering all interest payments on securities of all maturities floated on the domestic market by either residents or nonresidents. In Italy, for example, there is a 30.8 percent "general" withholding tax on interest paid both to residents and foreigners. As a result of this tax, interest paid by the debtor differs from interest received by the creditor. The domestic supply of capital may react in different ways to changes in the interest rate received by the creditors involved. For the international supply, a positive elasticity may be safely assumed. The supply of funds, as a result of the tax, will be less than otherwise, and the interest to the debtor will be increased by an amount less than, or equal to, the tax. By the same token, the interest rate to the creditor will remain unchanged or be somewhat reduced. The rate of investment is dampened by the increase in the debtor rate of interest, but the supply is not stimulated, and may be dampened as well, by the impact of the tax on the creditor rate of interest. Thus, by increasing the "general" withholding tax, a country suffering from "imported inflation" may curtail domestic investment without at the same time inducing an offsetting capital inflow. Conversely, a country confronted by the threat of exported inflation may, by reducing the "general" withholding tax, stimulate the rate of investment at home without also bringing about a capital outflow.

Conceivably, exemptions from the initial rate of the personal income tax on residents might be used to reduce net capital outflows in countries that do not have a "general" withholding tax on interest.[4] Countries having a value-added tax, or an equivalent sales tax on interest payments, may also put the rate of interest up or down on the domestic capital market without affecting foreign capital flows. In France, interest payments by corporate borrowers are now subject to a standard value-added rate of 25 percent. In addition, there is an 8.5 percent sales tax on the interest receipts of banking institutions. Corporations are allowed to reduce their tax liability by the amount of the lender's sales tax. An obvious way, therefore, for the French to reduce their vulnerability to "imported inflation" would be to remove the tax credit for the lender sales tax, thus raising the effective tax rate on debtor interest payments.

Suppose that a country has a satisfactory level of employment and that a problem of overheating arises only from the

---

rate too high for the long term and satisfactory for the short term depends on monetary policy decisions.

[4] If they have a withholding tax on interest (or other returns to capital) paid to foreigners, this also may be reduced to reach the same results through an increase of foreign capital inflows. The investment tax credit may operate in the same direction as a reduction of the personal income tax initial rate on income from capital, as a substitute for easier money. See S. B. Chase, Jr., "Tax Credits for Investment Spending," *National Tax Journal*, XV, no. 1, 1962, especially pp. 44-45.

"imported inflation" that the full employment rate of interest engenders. A reduction in the rate of interest would stem the tide of unwanted capital imports, but would at the same time lead to domestic inflation. In these circumstances, a withholding tax on interest or a sales tax on credit institutions may be applied simultaneously with the introduction of an easy money policy by the central bank. Capital inflows will be restricted without reducing the rate of interest for domestic debtors.

The tax increase, accompanied by an offsetting reduction in the interest rate before payment of the tax, would leave domestic debtors unaffected. Foreign investors, on the other hand, would find a reduced interest return net of the tax.[5]

III. *An Interest Withholding Tax on International Transactions*

Instead of levying a tax on interest income generally, a discriminatory version may be adopted, like the new German withholding tax and the U.S. Interest Equalization Tax. By the way of illustration, a withholding tax may be placed exclusively on nonresidents' interest on assets of domestic origin.

It should be noted that in a 2-country world, whereas a general interest tax levied by A or a general reduction of taxation of interest enacted by B may discriminate between A and B *capital markets* without discriminating between *capital suppliers resident of A and B*, an interest equalization tax levied by B, as well as a special witholding tax on foreigners levied by A, may also discriminate *between* investors. Investment by residents of A would be favored over those of residents of B in capital market A. In addition, for residents of B, investments in capital market B are favored over investments in capital market A; while for residents of A, investments in capital market A are favored over investments in capital market B.[6]

Were the special withholding tax or the interest equalization tax limited to bonds and bank deposits, the effect would appear to be similar to that resulting from a general withholding tax on interest offset by an easy money policy. There are, however, significant differences. As noted earlier, the latter combination is likely to shift the burden of the tax onto interest receivers, either foreign or domestic. In contrast, a withholding tax on nonresident investors only, and without a change in monetary policy, will lead to a rise in interest rates—net of taxes—on the domestic market. That is, because of the reduction in net returns, nonresident investors will begin to disinvest in domestic securities; and interest rates will rise. Domestic interest rates will increase for resident investors but decline for nonresidents, and the capital inflow will be reduced. Internal stability will be enhanced both through the impact of higher interest rates on domestic expenditures and the elimination of "imported inflation." Such a tax was adopted by the West German Government in March 1965 with the expected impact on the capital market taking place.[7]

The German tax applies only to in-

[5] Domestic creditors, to be sure, would experience the same effect, but this effect is typical in any case of low interest rate policy.

[6] On the issue of tax neutrality between domestic residents whether investing at home or abroad, as distinct from the issue of tax neutrality between investments in two different countries made by residents or foreigners, see P. Brewer Richman, *Taxation of Foreign Investment Income, An Economic Analysis*, Baltimore: John Hopkins University Press, 1963; and L. Krause and K. W. Damn, *Federal Tax Treatment of Foreign Income*, Washington, D. C.: The Brookings Institution, 1964.

[7] See *Report of the Deutsche Bundesbank for the Year 1964*, pp. 55-56; and "The Effects of the Withholding Tax Law," *Monthly Report of the Deutsche Bundesbank*, XVII, No. 6, June 1965, pp. 3-8. Of course, the empirical validation of the theory was doubtless given an assist by the U. S. Interest Equalization Tax.

terest on domestic bonds. Interest on bonds issued on the German capital market by foreign corporations is exempt. Interest paid on bank deposits owned by foreigners is also exempt, but there is currently a ceiling limitation of zero on such interest payments. Thus, there are two results of a discriminatory nature. The attraction that the German capital market held for foreign investors declined, whereas its attractiveness to foreign borrowers was enhanced.

At the same time that this withholding tax was introduced in Germany, the Interest Equalization Tax was put into effect in the United States. This levy on foreign portfolio investment further discouraged the purchase of German stocks and bonds by U. S. residents.[8] The net result of the two taxes has been an outflow of German capital, replacing the previous inflow, since some of the bonds issued on the German market by foreign companies are used to finance investments outside of Germany. Some of them, however, are used to finance investments inside Germany; this is especially true of borrowing by American firms. Without the American tax, which also covers banks and other financial intermediaries, the exemption of foreign bonds issued in Germany from the German withholding tax would have reduced the effectiveness of this tax as a means of reducing German capital imports, since American capital would have flowed into these issues (through American financial institutions.)

In principle, as noted earlier, the tax may discriminate between debts of different maturities. Thus, short-term capital inflows may be favored while long-term flows are selected for curtailment. Alternatively, the tax might be levied only on debt instruments, including deposits, in the shorter maturity range. In this instance, the tax would exert a milder influence on the long-term rate. Thus, short-term "imported inflation" might be restricted without at the same time curtailing the flow of funds into long-term investment.

Conversely, an interest equalization tax may be used to limit the exodus of long-term funds without raising domestic long-term interest rates, while monetary and debt management policy may be employed to keep domestic short-term interest rates competitive with those abroad.

However, a single capital-exporting country acting alone might be unable to discriminate, through the interest equalization tax, between short-term and long-term capital outflows. Once the first are exempted, capital may flow abroad tax free in a short-term form, to reappear there as a long-term domestic investment. In this case, a tax on long-term financial investment—both domestic and international—by the capital-importing country may close the gap.

A combination of withholding taxes in a capital-importing country and equaliza-

[8] Among the advocates of this tax, see H. B. Lary, *Problems of the United States as a World Trader and Banker*, New York: National Bureau of Economic Research, 1963, pp. 123-124. The policy background of the tax is presented in the "President's Special Message on Balance of Payments" accompanying the Interest Equalization Tax Act of 1963, Washington, D. C.: Government Printing Office, 1963. See, also, the statements by W. Heller and J. Tobin in U. S., Cong., Joint Economic Committee, Subcommittee on International Exchange and Payments, *Hearings, International Payments Imbalances and Need for Strengthening International Financial Arrangements*, 87th Cong., 1st Sess., 1961, (cited hereafter as Joint Economic Committee, *International Payments Imbalances Hearings*, 1961,) and U. S. Cong., Joint Economic Committee, *Hearings, The International Monetary System: Functioning and Possible Reform*, 88th Cong., 1st Sess. Part 3, 1963, (cited hereafter as Joint Economic Committee, *International Monetary System Hearings*, 1963.) Of special interest in these *Hearings* are the discussions between Senator Proxmire and Professors F. Lutz and R. Mundell. (See also House Committee on Banking and Currency, *Continuing Deficit of Our Balance of Payments Hearings*, 1963 (especially the discussion between Senator Proxmire and Professor C. P. Kindleberger).

tion taxes in a capital-exporting country may be employed to deal with problems arising from the existence of different interest rates in different countries. Suppose there are three countries—Italy, Germany, and the United States—Italy with the highest interest rate to borrowers because of a general withholding tax, Germany with the second highest rate, and the United States with the lowest rate, but with Germany and the United States having neither withholding nor interest equalization taxes. In these circumstances, Germany would be subjected to expansionary pressures due to imports of capital from both Italy and the United States. Assuming that interest rates received by Italian lenders net of the tax are lower than the German rates but higher than the American rates, a withholding tax in Germany could halt the flow of capital from Italy to Germany without halting the flow from the United States to Germany. That flow could be stopped by an American tax.

This line of reasoning illustrates the way tax policy may be used to regulate capital movements, thus freeing the central banks involved to pursue their disparate interest rate policies. Similarly, this general approach may be adapted to the needs of a common market. General and special withholding and interest equalization taxes may be employed to eliminate the stimuli to capital movements which may be provided by differing monetary policies. To assure the effectiveness of such an approach, it would suffice to require that all capital transactions be channeled through licensed banks, which, in turn, would render periodic reports to their central banks. Then existing controls over capital movements might be dismantled.

Such an arrangement within the European Economic Community might be based on articles 108 and 109 of the Rome Treaty. Each member country suffering from "imported inflation" could be authorized to apply a withholding tax on residents of any or all other member countries. The other member country or countries would be obliged to cooperate in the collection of the tax. Similarly a country experiencing "exported inflation" might be permitted resort to an interest equalization tax. Capital movements among member countries might be completely freed. Before resorting to special withholding or interest equalization taxes, the possibility of acting through the less discriminatory means of general withholding taxes should be eliminated.

If it is assumed that domestic interest rates and the rate of return on capital are in equilibrium in each country that is involved, there exists an array of taxes adjusted to interest rate differentials that will eliminate undesired capital movements. Of course, if internal equilibrium is lacking, or is impaired by the effects of these taxes on the rate of interest to borrowers, monetary policy might then be employed to push down the interest rate to borrowers.

IV. *Allocational Implications of Withholding and Interest Equalization Taxes*

The interest equalization tax has been criticized for its alleged effects of distorting and fragmenting the international capital market.[9] This criticism, however, fails to consider that such a tax has different effects depending on the manipulations of interest rates through monetary policy. The claim of a "distortion" implies that, without that tax, the interest rates regulating international capital flows were "neutral." (Let us define as "neutral" that interest rate which, given a balanced budget fiscal policy, enables a nation to reach full employment.[10]) If country A

[9] See the answers of C. P. Kindleberger and R. Mundell in Joint Economic Committee, *The International Monetary System Hearings*, 1963. See, also, W. L. Smith, "Are There Enough Policy Tools" *American Economic Review*, LV, May 1965, 208-220.

[10] For alternative definitions of public policy

keeps its interest rate artificially high to offset the effects of an expansionary fiscal policy, and country B keeps its interest rate low enough to insure full employment with a balanced budget fiscal policy, capital outflows from B to A may be viewed as the spillover effect of a lack of "neutrality" of policy of A on B. The offsetting of this spillover effect by an interest equalization tax levied by B is then a way to correct for the distortions of capital movements and of domestic interest rates induced by A. Suppose that external economies exist in underdeveloped country C and that country B diverts resources to C to improve the international allocation of capital. Suppose also that both A and B maintain a balanced budget and an interest rate which enables them to reach domestic full employment. An interest equalization tax levied by B on capital flows to A then may be viewed as a weapon to sustain the diversion of capital from B to C without artificially raising the domestic interest rate in B. Here, again, the international allocation of resources may be improved.

As for the fragmentation of the market argument, it is important to stress that the tax schemes developed here do not need to be limited to foreign transactions alone. As has been shown, a simultaneous change in the interest rate and in the general domestic taxation of interest may leave the after-tax interest rate to the domestic borrower unaltered while changing that to the lender—whether he is a domestic or foreign resident—with effects on international capital flows.

Admittedly, special withholding and interest equalization taxes may sometimes be more workable than general increases or reductions of interest taxation and, therefore, preferable, even aside from their specific effects in correcting a distortion of international capital flows. In a world of imperfections, second-best tools aiming to reconcile conflicting objectives cannot be properly assessed unless a comparison is made with the available alternatives.

Let us try briefly to make such a comparison.

A. Tight Monetary Policy and Easy Fiscal Policy in a Country Whose Foreign Balance is Threatened by Capital Outflows

As has been frequently pointed out, this course may be objectionable from growth and equity points of view, since tight money may hinder capital formation and may give an undue premium to lenders at the expense of both entrepreneurs and wage earners.[11] The use of tight monetary policy to prevent capital outflows, coupled with easy fiscal policy to attain or maintain domestic full employment, implies the resort to long-term public debt, even when the given level of public spending might be financed through the issuance of money or short-term securities without inflationary consequences.[12] There is no a priori reason to believe that the burden on taxpayers for public debt service thus imposed is superior, from the point of view either of

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neutrality (and a skeptical view of the concept of neutrality as for monetary and fiscal policy) see W. B. Reddaway, "Keynesian Analysis and a Managed Economy," in *Keynes' General Theory, Reports of Three Decades*, ed. R. Lekachman, New York: St. Martin's Press, 1965, pp. 108-123; and Edmund Phelps, *Fiscal Neutrality Toward Economic Growth*, New York: McGraw-Hill Book Co., 1965.

[11] See R. A. Musgrave, *The Theory of Public Finance*, New York: McGraw-Hill Book Co., 1959, Chapter 12; also see H. Johnson, "The Objectives of Economic Policy and the Mix of Fiscal and Monetary Policy in Maintaining and Restoring Balance in International Payments," in *A Symposium of Fourteen Economists*, ed. F. Machlup, Princeton: Princeton University Press, 1966, where the possible conflict between the growth objective and those of internal and external balance is clearly pointed out.

[12] See J. M. Buchanan, *Public Principles of Public Debt*, Homewood, Ill.: Richard D. Irwin, Inc., 1958, pp. 145 ff.

allocation or distribution, to the burden imposed on domestic lenders to foreigners by an interest equalization tax. To counteract the effects on capital formation of tight monetary policy, one may need larger public spending on investments. There is no a priori reason to assume that the sectoral investment shift implied by this policy has better allocational effects than those of tax wedges on lending to foreigners.[13]

B. Easy Monetary Policy and Tight Fiscal Policy in Countries Whose Internal Stability is Threatened by Capital Inflows

Obviously, countries threatened by capital outflows would like capital-importing countries to follow a policy of low interest rates and to rely on budgetary policy for stabilization purposes. But a country may choose a high interest rate because it is unable or unwilling to resort to fiscal policy to stabilize; for instance, in a Federal state (like Germany) local authorities and member states may have the power to borrow, which the central government is unable or unwilling to interfere with, and may prefer borrowing to taxing. Furthermore, a country may choose a mix of *tight money* and *tight fiscal policy* to choke off dangers of cost inflation, even at the expense of unemployment and a restraint on growth of consumption greater than that of other countries or that experienced in the past, because it attaches a particular value to monetary stability. Moreover, an increase in the world money supply designed to ease the long-run process of restoring equilibrium among the balances of payments of the various countries may be more acceptable to countries that rely strongly on monetary policy for stabilization purposes, if withholding taxes and interest equalization taxes are available to preserve the domestic functioning of monetary policy.

C. Controls on Capital Movements and Discriminatory Controls on Foreign Capital Issues

The more the international capital market is unified, the narrower will be the room for domestic monetary policy. On the other hand, it should be recognized that aggregate fiscal policy alone can hardly accomplish all the possible stabilization tasks. Western Europe appears substantially behind the United States in this field, and even in this country aggregate fiscal policy is far from being perfectly flexible. Moreover, to resort only to an aggregate fiscal policy may be too crude a way to stabilize. If interest tax wedges are not available to allow more autonomy to domestic monetary policy, controls on capital movements might easily persist or reappear to provide such autonomy. These controls are clearly inferior to interest tax wedges, both from the administrative and the economic point of view.[14] This is particularly true of the short-run needs of stabilization policy. Not only are controls more difficult to administer and to en-

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[13] The following quotation taken from Joint Economic Committee, *International Payments Imbalances Hearings*, 1961, p. 56, may illuminate the issue:

> *Rep. Reuss:* I suppose one answer is that we wish to encourage more private and less Government, investment and expenditure—an answer with which the Germans would be extremely sympathetic.
>
> *Mr. Tobin:* The point I was going to make is that we have perhaps other reasons for wishing the particular mixture of fiscal and monetary policy that would place emphasis for low, relatively low interest rates and a tight budget if we are interested in the allocation of resources or full employment between investments for growth and Government investments and Government policies for growth and consumption.

[14] See Professor Lutz's statements in Joint Economic Committee, *The International Monetary System Hearings*, 1963.

force; they also require more time to be put into full effect and to be dismantled.

D. Long-Run Widespread Deflation

The more difficult it is to counteract short-run instability through monetary and fiscal policy, the more likely is the emergence of a long-run deflationary policy aimed at preventing short-run inflation or a balance of payment deficit. The loss of output risked by this course must be weighed against the interferences with capital movements brought about by taxation of the interest.

E. Money Exchange-Rate Adjustments

Balance of payment effects of capital outflows and inflows might also be corrected through more frequent currency devaluations and revaluations. Their implications for international allocation, however, are highly questionable under present conditions whereby international capital accounts are distorted by unequal military expenditures abroad and unequal foreign aid, and whereby balance of payment deficits are commonly defined in highly disputable ways, because of the imperfections of international financial mechanisms. Countries whose currencies play the role of an international reserve, furthermore, cannot easily manipulate their exchange rates. On the other hand, nations who are members of the Common Market are pledged to fixed exchange rates in the interest of creating a unified capital market and fostering full integration of their economies. Tax wedges on interest impair international capital markets much less, both within these countries, and between them and the reserve currency countries.

F. Freely Fluctuating Exchange Rates

A decision to resort to a world-wide system of freely fluctuating exchange rates involves many more issues than those related to the merits and demerits of interest tax wedges in comparison with other corrective devices. It is beyond the scope of the present paper to discuss these other issues. Under free exchange rates, however, taxation of interest may still have some merit. General domestic taxes on interest might be considered appropriate to offset some of the discriminatory aspects of corporate taxation and of property taxes. Taxes which differentiate between long-run and short-run interest rates might be used to offset some unintended results of monetary policy or some imperfections of financial markets. Taxes on foreign lending or on borrowing from foreigners may still play a role in offsetting monopolistic elements and institutional diversities which distort rates of interest on different financial markets or in compensating for differential tax burdens and public expenditure benefits among the various countries.[15]

Finally, it should be noted that an important objection to freely fluctuating exchange rates is that they prohibit a fully integrated international capital market because of the added risk they impose on foreign financial operations in comparison with domestic ones. Freely fluctuating rates, moreover, require a stricter type of international cooperation than do interest tax wedges. Thus, with respect to the creation of a fully integrated capital market, interest tax wedges employed in conjunction with general international monetary and fiscal cooperation appear to be more effective devices.

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[15] Governor Mitchell of the Federal Reserve Board justified the interest equalization tax on similar grounds. Senator Proxmire refers to this as to the basic argument supporting this tax. See the Joint Economic Committee, *The International Monetary System Hearings*, 1963, p. 376-377.

► CHARLES M. LINKE

The Evolution of Interest Rate Regulation on Commercial Bank Deposits in the United States

I. *Introduction*

The payment of interest upon deposits was the subject of intermittent controversy in the banking fraternity for nearly three-quarters of a century before Federal legislative controls were initiated by the Banking Acts of 1933 and 1935. During this period, many influential individuals urged that banks eliminate interest rate competition for deposits. Some suggested that rate competition could be eliminated through voluntary agreements among the banks to stop paying interest or to pay uniform rates, while others advocated legislation that would either prohibit deposit interest or provide for regulation of maximum rates. These proponents of deposit rate control argued variously that the adoption of either legislation or voluntary agreements would so improve the management of bank funds that the economy would be less vulnerable to unsound banking practices.

But though the existence of deposit rate competition was regarded by many as a major cause of numerous banking ills, rate competition appears to have been a point of far less concern to the framers of banking legislation. In fact, when the regulation of these rates was included in the comprehensive Federal banking reform legislation of the early 1930's, there was little discussion supporting or opposing it. Moreover, this absence of discussion continued for nearly a quarter of a century thereafter. Not until the late 1950's, when open market interest rates once again reached the rela-

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tively high level of the early 1930's and the rates paid by many banks approached or equaled the maxima permitted by the regulatory authorities, did interest rate regulation again become a subject of great concern to the banking industry.

In recent years, many individuals and organizations have devoted considerable attention to the question whether rate regulation should remain in its present form or whether it should be altered or even abolished. This article attempts to provide a more complete history of the evolution of deposit rate regulation in the United States than is currently available. The evidence contained herein will hopefully benefit discussions concerning the appropriate deposit rate regulatory policy in an enviroment very different from that which gave rise to rate control legislation.

The first section of the article concentrates on the period before the establishment of the Federal Reserve System, and the second considers developments during approximately the first two decades of central bank operation, 1913-33. In the former period, attention was focused primarily on the payment of interest upon interbank deposits, while in the latter, rate competition for time and savings deposits also received consideration. The events preceding the adoption of Federal rate controls in the Banking Act of 1933 are examined in the third section.

II. *The Deposit Rate Controversy Before The Enactment of The Federal Reserve Act*

The practice of paying interest on deposits was unknown to the banking industry in the United States before the 1800's. By the middle of the nineteenth century, however, this practice had become inextricably associated with bankers' balances, and much of the growth of these balances was attributed to the payment of deposit interest.[1] Since bankers' balances frequently played important roles in money panics, the association of interest payments with the growth of bankers' deposits made interest on interbank deposits the prime element in the deposit rate controversy before 1913.

A. The Development of Deposit Interest

The earliest known payments of interest on deposits in this country were made by the Farmers' Bank of Maryland in 1804.[2] The histories of other early banks also reveal isolated cases of payments of interest to depositors at about the same time. Analysis of the fragmentary information available has led most historians to conclude that the development of deposit interest coincided with (and contributed to) the growth of bankers' balances, and deposit interest has been viewed mainly as an outgrowth of the competition for these balances.[3]

The payment of interest upon deposits in a competitive banking system has two

[1] Bankers' balances, or deposits, are represented by the items "due to banks" and "due from banks" appearing in banks' financial statements.

[2] Alfred C. Bryan, *History of State Banking in Maryland, 1790-1864,* Johns Hopkins University Studies, Series 17, Nos. 1-3; Baltimore: Johns Hopkins Press, 1899, pp. 16, 38.

[3] Cf., Oliver M. W. Sprague, *History of Crises Under the National Banking System,* Washington: U.S. Government Printing Office, 1910, pp. 20-24; Lloyd W. Mints, *A History of Banking Theory in Great Britain and the United States,* Chicago: University of Chicago Press, 1945, p. 141; Margaret G. Myers, *Origins and Developments,* Vol. 1, of *The New York Money Market,* ed. Benjamin H. Beckhart, 4 vols.; New York: Columbia University Press, 1931, pp. 119-124; Leonard L. Watkins, *Commercial Banking Reform in the United States,* Michigan Business Studies, Vol. 8, No. 5; Ann Arbor: University of Michigan, Bureau of Business Research, 1938, p. 463; Davis R. Dewey, *State Banking Before the Civil War,* Washington: U.S. Government Printing Office, 1910, pp. 214-217.

functions: (1) to place a restraint or opportunity cost upon potential depositors, thereby inducing (or retaining) funds into commercial banks; and (2) to encourage depositors to keep their funds in a specific bank, thus providing that bank with deposits and reserves that increase its lending power. The first function is the more important from the viewpoint of the banking system as a whole, since the payment of interest on deposits is an inducement to potential depositors not to compete with banks directly, or indirectly through other intermediaries, in the money and capital markets. In the case of an individual bank, on the other hand, interest on deposits today performs both functions. However, since commercial banks in the early 1800's were often primarily banks of note issue, not of deposit, the payment of interest on deposits was of little competitive value to most banks at that time.

It was not until the middle of the nineteenth century that deposit banking generally began to supersede note issue in importance. Nevertheless, by the early 1830's, banks in money centers such as New York City and Boston were essentially banks of deposit.[4] Available records do not indicate the relative magnitude by deposit type, but the records of the banks in New York City show that by 1837 bankers' deposits were nearly as large as all other deposits.[5] The relative importance of bankers' deposits combined with the existence of many banks, especially in New York, keenly interested in obtaining these balances created an environment conducive to the early development of deposit interest rate competition.

The payment of interest on interbank deposits was sufficiently common by the early 1830's to arouse the opposition of at least one banking supervisor and a state legislature. In 1831, when the first report of the New York State Banking Commissioner was issued, the payment of interest on bankers' balances received an official expression of disapproval.[6] Three years later, the State of Massachusetts enacted a law restricting deposit interest payments by commercial banks.[7] The Massachusetts legislature approached the regulation of deposit rates by specifically prohibiting payments to certain classes of depositors—one of which, mainly after 1837, was other commercial banks.

The payment of interest on deposits was not limited solely to bankers' deposits, but it was in relation to these deposits that the practice made its most rapid headway. Even in the case of interbank deposits, however, the practice of paying deposit interest was not uniform. Only a few of the New York City banks, where the bulk of the interbank deposits were located, competed for correspondent balances via deposit interest, and as a result interbank deposits were concentrated in a small number of banks. In 1837, 9 of the 23 New York City banks held 78 percent of the interbank deposits.[8] By 1857, 6 of the 54 banks in the city held 63 percent of these deposits.[9] This concentration of the reserves of the nation's banks in the interest-paying New York City banks was to remain a salient feature of the banking system well into the twentieth century.

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[4] Myers, *op. cit.*, pp. 83-90.

[5] The demise of the Second Bank of the United States in 1836 stimulated the growth of interbank deposits in New York City banks. Thereafter, New York City banks were the custodians of most of the nation's commercial bank reserves. See Myers, *op. cit.*, pp. 8, 9, 83, 119; and Mints, *op cit.*, p. 141.

[6] Myers, *op. cit.*, p. 120.

[7] Federal Reserve Bank of Boston, *Annual Report*, 1962, pp. 15, 16; Harry E. Miller, *Banking Theories In The United States Before 1860*, Cambridge: Harvard University Press, 1927, p. 217.

[8] Myers, *op. cit.*, pp. 116-118.

[9] *Ibid.*, p. 119.

By the middle of the nineteenth century, the practice of paying interest on deposits was mainly associated with rate competition for bankers' balances in the New York banking center. Although the basic movement of funds to New York was related primarily to the flows of commerce and the requirements of the correspondent banking system, the inducement of interest on deposits was sufficient to encourage many interior banks to maintain balances in New York larger than required for strictly correspondent and commercial reasons.[10] This was especially true under the National Banking Act's system of reserve requirements that permitted the redepositing of required reserves. These deposits were earning assets and qualified, moreover, as a means for diversifying assets so as to minimize risk and provide adequate reserves in a very liquid form. Although interior bankers argued there were sound reasons for concentrating reserves in the interest-paying New York City banks, deposit interest was often criticized as depriving the communities from which the deposits originated of needed loanable funds.[11]

Operating in an economy still predominantly agricultural and influenced significantly by the seasonal rhythms of this industry, this concentration of nationwide bank reserves in New York City often produced bizarre and unfortunate results. The interest-paying New York City banks followed the practice of employing the bankers' deposits they held in short-term commercial loans and in "shiftable" call loans secured by stock exchange collateral.[12] When the annual spring and autumn withdrawal of reserve balances by interior banks occurred, the New York banks were forced to reduce their call loans. Call loans were shiftable to other banks, however, only when some banks had excess funds, and in a period of stress all the New York City banks would be calling their loans simultaneously. Thus, call borrowers, in order to repay, would have to shift their loans to banks situated mainly outside the city or to nonbank lenders.

This was possible, and in fact was successfully accomplished more often than not. On occasion, however, when the spring or autumn withdrawal of balances coincided with a period of weakness in the securities market and/or declining business activity, the call loan market could not provide liquidity to those banks that had relied too heavily on the quick liquidation of call loans. New York banks were unable to meet their correspondents' withdrawal demands no less than five times between 1850 and 1913. The crises that accompanied suspension are commonly referred to as the panics of 1857, 1873, 1884, 1893, and 1907. Although the elimination of interest on interbank deposits might have had some effect on the magnitude of these periodic money panics, a central bank was what, in fact, was required to eliminate them, for only a central bank could *create* reserves.

B. Emphasis on Bankers' Balances

Historically, the most important argument for the regulation of interest on de-

[10] Leonard L. Watkins, *Bankers' Balances*, Chicago: A. W. Shaw Co., 1929, pp. 212, 361; and Sprague, *op. cit.*, p. 21.

[11] This criticism was common throughout the period from 1830 to 1933. For example, see J. Laurence Laughlin, *Banking Reform*, Chicago: The National Citizen's League, 1912, pp. 42-46; Myers, *op. cit.*, pp. 119, 120; Comptroller of the Currency, *Annual Report*, 1873, pp. xxvii-xxxi; and Secretary of the Treasury, *Annual Report on the State of Finances*, 1869, p. xix; *Bankers' Magazine*, 12, April 1858, pp. 822-831; U.S. *Congressional Record*, 77, Part 4, May 19, 1933, p. 3729.

[12] Myers' research of the early New York money market indicates that the call loan market was an outgrowth of and owed its continued existence to the reservoir of funds provided by bankers' deposits in New York City banks. Myers, *op. cit.*, pp. 126-148, 265-287.

posits arose from the role that deposit interest was thought to have played in causing financial crises. This argument appeared in the monetary literature as early as 1858,[13] and O.M.W. Sprague, in his well-known *History of Crises Under the National Banking System*, maintained that a primary cause of banking crises had been the practice of paying interest on bankers' deposits.[14] The "financial crises argument" for the control of deposit rates brought the controversy over interest payments on deposits into national prominence for the first time after the panic of 1857.[15] Thereafter, attacks upon the practice of money market banks paying interest on bankers' deposits occurred with regularity after each major banking panic. Although the existence of deposit rate competition was not limited to the New York money market, the discussions of interest payments on deposits essentially considered only New York because of its unchallenged role as the banking center of the United States.[16]

There were two closely related aspects of the "financial crises argument" for the control of deposit rates. If money market banks would stop paying interest on bankers' deposits, it was argued: (1) that interior banks would be induced to hold lower correspondent balances and would increase their vault cash and/or their extension of local "productive" credit; and (2) since the necessity to earn deposit interest would be removed, money market banks would be induced to hold more cash reserves and less earning assets—especially assets supporting speculative credit. As a result, according to this argument, the banking system would be less vulnerable to a liquidity crisis, and "productive" credit demands would not be forced to compete on a par with speculative uses of credit.

An awareness of the development of this argument is essential to an understanding of the evolution of interest rate regulations on commercial bank deposits. Though developed early, the "financial crises argument" along with the "sound banking argument" were the two principal justifications used in defense of the deposit rate provisions contained in the Banking Act of 1933.[17] The best early statement of the "financial crises argument" can be traced to the reports of the New York Clearing House following the panics of 1857 and 1873, although occa-

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[13] J. S. Gibbons, *The Banks of New York and the Panic of 1857*, New York: D. Appleton and Co., 1858, pp. 319-399.

[14] Sprague, *op. cit.*, pp. 20-24, 232-236.

[15] Professor Mints (*op cit.*, p. 141) in his study of the development of banking theory in the United States and Great Britain, stated: "During the period following 1860, the payment of interest was frequently criticized, but prior to the Civil War, I have found only two objections to it." The two objections noted by Mints refer to the writings of J. S. Gibbons (*op. cit.*) and Samuel Hopper. The Hopper citation is to his *An Examination of the Theory and the Effects of Laws Regulating the Amount of Specie in Banks*, Boston, 1860, pp. 46-48.

[16] The discussion of interest on bankers' deposits, although directed explicitly at the New York banks, implicitly included banks in other major cities which paid interest to their local correspondents. The inherent problems associated with the redepositing (pyramiding) of required reserves under the National Bank Act's reserve system were intensified when banks in reserve cities and the other two central reserve cities, (Chicago and St. Louis) redeposited funds in New York in amounts scarcely in keeping with their reserve and central city responsibilities. Most critics reasoned that if the practice of paying interest on interbank deposits was arrested at the point of final concentration, New York City, the reform would of necessity run back through every link in the chain. See, for example, an address delivered by George S. Coe before the New York Clearing House Association, *Bankers' Magazine*, 39, July 1884, pp. 44-51.

[17] Senator Glass voiced these two basic arguments several times in speeches on the floor of the Senate in 1933. U.S. *Congressional Record*, 77, Part 4, May 19, 1933, pp. 3729, 4165-4169.

sional, incomplete references to it can be found in the literature before that time.

During the panic of 1857, the newly formed New York City Clearing House appointed a special committee to investigate the causes of the crisis. The committee issued its reports in March 1858, and recommended the prohibition of interest payments on bankers' deposits.[18] The report pointed out that the New York banks were affected with a public interest by virtue of the fact that they held a large proportion of the reserves of the nation's interior banks. Furthermore, the report contended that a bank paying a deposit rate could not be responsible to that public interest. In the words of the committee: "A bank having committed the first error of paying interest on its deposits is therefore compelled by the necessity of its position [the pressure to earn deposit interest] to take the second false step and expand its operation beyond all prudent bounds."[19]

The committee concluded that the elimination of rate competition for bankers' balances would, by reducing the pressure to earn deposit interest, remove a basic cause of excessive expansion of speculative loans and of the periodic crises. The report did not explicitly present the other aspect of the "money crises argument," relating to vault cash, but rather concentrated on severing the connection between bank reserves and security loans. This strong indictment against deposit interest was supported by 40 of the 46 banking members of the New York Clearing House.[20] The six recalcitrant members of this voluntary association failed to yield, and they held 63 percent of the bankers' balances in New York. As a result, the controversy was essentially set aside until the panic of 1873.[21] During the interim, the practice of paying interest on deposits gained adherents as the share of deposits held by interest-paying banks increased.

Following the panic of 1873, the New York Clearing House again appointed a committee ". . . to consider and report what reforms are required in the practical operations of banks with each other and with the public to increase the security of their business."[22] In November of 1873, the committee issued its report and vigorously recommended the prohibition of interest payments on bankers' deposits. The committee's arguments for prohibiting deposit rates included both aspects of the "money crises argument."

This report clearly recognized that the New York banks held the reserves of the banking system, and it implied that this central reserve function, which should have been administered for the good of the system, was being prostituted for the private gain of the interest-paying banks. After showing that two-thirds of the deposit loss to the New York banks was concentrated in the deposits held by the 12 banks which paid interest to their country correspondents, the report stated:[23]

> When the late panic commenced . . . the proportionate reserve of legal-tender

[18] *Bankers' Magazine*, 12, April 1858, pp. 822-831.

[19] *Ibid.*, p. 825.

[20] Myers, *op. cit.*, pp. 123, 124.

[21] Jules I. Bogen and Herman E. Krooss report that while the National Banking Act was being considered in Congress, it was proposed that national banks be prohibited from paying interest on deposits. The suggestion was rejected, however, on the ground that it would place national banks at a competitive disadvantage with state banks. Jules I. Bogen and Herman E. Krooss, *Savings and Other Time Deposits in Commercial Banks*, New York: Graduate School of Business Administration, New York University, 1962, p. 30.

[22] Sprague, *op. cit.*, p. 91. This report was published in the *Commercial and Financial Chronicle*, November, 1873, p. 651 and *passim*. The full report was inserted in Professor Sprague's book, pp. 91-101, and references are based on this source.

[23] *Ibid.*, pp. 93, 94.

> notes in the associated banks was greatly in favor of the latter number [noninterest paying banks], for the obvious reason, that banks which pay interest upon money can least bear to have any amount of it idle. The active demand first came, as it usually comes, for that portion of deposits due to country banks, who, in addition to their annual necessities, had been disturbed by failures of several city bankers, holding large balances of money due the interior. These deposits were to a great extent loaned upon stocks and bonds in Wall Street, payable 'on call,' with the confident belief that they were there earning more than the interest paid for securing them, and were available as promised. But, from the very nature of the case, the rapid withdrawal of deposits from the banks made the 'call' from every direction simultaneous and closed every resource from which the 'street' derived its power to respond. Borrowers upon stocks were deprived both of their facilities of borrowing and of all power to sell their securities. The necessary result occurred. Banks which found themselves in this dilemma had no alternative but to ask the assistance of their associates . . . who had for long years conducted their business upon sound principles, and who had patiently submitted to the loss of valuable accounts, drawn from them by their associates, by practices against which they had continually protested, instantly responded to the call by placing their resources at command of those who had done so much toward producing the calamity; . . .

The committee went on to argue the other aspect of the "money crises argument" when it stated:[24]

> The abandonment of the practice of paying interest upon deposits will remove a great inducement [on the part of interior banks] to divide these reserves between cash in hand and deposits in cities, and make the banks throughout the country what they should always be, financial outposts to strengthen the general situation.

The report's emphasis on reducing the volume of redeposited reserves was primarily attributable to the system of reserve requirements established by the National Bank Act. Under this system, bankers' deposits with New York banks or other approved reserve agents were counted, within prescribed limits, as legal reserves for depositing banks. Interior bankers were thus induced to reduce their reserves on hand to a minimum in order to maximize their interest-earning reserves on deposit with other banks.

Essentially the same points were stressed by both the Secretary of the Treasury and the Comptroller of the Currency in their reports for 1873. The Secretary of the Treasury, William A. Richardson, recommended ". . . that national banks be prevented from paying interest on deposits, or that they be restricted and limited therein, either by direct prohibition, by discriminating taxation, or otherwise."[25] In contrast, the Comptroller of the Currency, John Jay Knox, argued that clearing house agreements in the principal cities ". . . would do more to prevent the payment of interest on deposits than any Congressional enactment."[26] His reasoning was that a prohibition applicable to national banks alone would not solve a problem involving both state and national institutions. Knox warned the New York banks that if voluntary action were not taken to limit deposit interest, legislation might be forthcoming ". . . to force the elimination of all but minimum interbank deposit balances . . . needed at the commercial center for purposes of legitimate business."[27]

The "money crisis argument" for the

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[24] *Ibid.*, p. 97.

[25] Secretary of the Treasury, *Annual Report on the State of Finances*, 1873, p. xvii.

[26] Comptroller of the Currency, *Annual Report*, 1873, p. xxxi.

[27] *Ibid.*, p. xxix.

control of deposit rates had been succinctly stated in the report of the Clearing House committee and attested to by both the Secretary of the Treasury and the Comptroller of the Currency. However, efforts to secure either a New York Clearing House agreement or legislation were unsuccessful. The panic of 1884 followed the pattern set in 1873. The New York Clearing House's special committee reiterated the "money crisis argument" for the control of deposit rates;[28] and the Comptroller of the Currency again called attention to the evils resulting from the payment of interest on bankers' balances and stressed the need for clearing house agreements.[29] As before, the opposition of the interest-paying banks was effective in preventing the adoption of the proposal to eliminate deposit rates. However, the interest-paying banks did mutually agree to limit their explicit interest payments on bankers' deposits to 2 percent, but the available literature indicates that there was some manipulation of interest rates paid via changes in service charges.[30]

The evils associated with redeposited reserves and the interest payments thereon were noted once again in the discussions that followed the panics of 1893 and 1907. However, it was beginning to be realized that deposit rates were only one of the difficulties inherent in the banking and monetary arrangements provided by the national banking system. The greatest shortcoming of that system was that a small group of banks in New York City could serve as bankers' banks without a sense of responsibility or the necessary safeguards.

The panic of 1907 was the catalyst that set off a reform movement that resulted in a major overhauling of the machinery of the entire banking system. The New York banks, which, by virtue of the concentration of the nation's bank reserves that they held, had played the role of guarantor of the banking system's ultimate liquidity and solvency and had taught the nation a monetary lesson in a slow, painful manner. The only adequate safeguard against a liquidity crisis in a fractional reserve system, or in a national money market, is a central bank with sufficient authority to act as a lender of last resort as needed.

It is significant that in the period before the Federal Reserve Act came into force, the discussions of deposit interest centered almost exclusively upon bankers' deposits in New York City, even though there was rate competition for other classes of deposits in New York and elsewhere. It was not uncommon for banks to pay interest upon large individual and commercial deposits and upon nearly all public deposits. Also, by the late 1800's many banks actively competed for time money by issuing interest-bearing certificates of deposit that were not unlike our present certificates of deposit. There is little evidence, however, that interest rate competition for deposits, other than bankers' balances, attracted any widespread attention until after the establishment of the Federal Reserve System.

II. The Deposit Rate Controversy: 1913-1933

The controversy over the payment of deposit interest continued, though altered in character, during the 20 years between the passage of the Federal Reserve Act and the initiation of Federal deposit rate controls in 1933. However, the deposit rate question received little attention during this period, and apparently the discussions that did occur were unlike those in the earlier period when the critics of deposit interest emphasized the relation-

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[28] *Bankers' Magazine*, 39, August 1884, pp. 129-133.

[29] Comptroller of the Currency, *Annual Report*, 1884, pp. 57, 58.

[30] Sprague, *op. cit.*, p. 119; and *Bankers' Magazine*, 39, November 1884, p. 390.

ship of bankers' deposits to liquidity crises. Instead, the few statements concerning this topic published in the literature of this period centered upon the excessive rate competition for time deposits and the relationship between bankers' balances and speculation in the securities market.[31]

A. Continued Emphasis on Bankers' Deposits

Although the payment of interest on bankers' deposits had been a subject of periodic controversy for more than 50 years, the prohibition of interest payments on these deposits was not one of the reforms included in the Federal Reserve Act. This is surprising, as the framers of the act hoped to correct the problems that had developed from the redeposited reserve situation under the National Banking System, resulting in the pyramiding of funds and their concentration in the securities loan market of New York City. The first draft of the Glass bill, which eventually became the Federal Reserve Act, did contain the provision that ". . . no National Banking Association shall pay interest on funds of other banks deposited with it."[32] This provision would have been applicable to the state banks that later joined the Federal Reserve System, since a provision was inserted requiring all members to agree to submit essentially to the same inspection and control applied to National Banking Associations. However, this deposit rate provision was not carried into later drafts of the bill or into the Federal Reserve Act.

Apparently, Representative Glass and his advisors felt that they had dealt with the interest problem indirectly through other provisions contained in the act. Without stopping to evaluate the impact of each provision, it is sufficient to state that the framers of the act expected that widespread membership and the concentration of reserve balances in Federal Reserve Banks would provide the basis for adequate rediscount, note issue, and collection facilities, and thus remove to a large extent the means as well as the incentive for maintaining large balances with city correspondents.[33] Moreover, the plans for a national acceptance market and the limitation of paper eligible for rediscount to "productive" credit were designed in part to reduce the flow of interbank deposits to New York banks.

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[31] The exclusion of demand deposits as a separate subject area of the deposit rate question deserves comment. Prior to 1933, the bulk of the nation's banks did not typically pay interest on demand deposits, except for public deposits on which interest was generally required by law. Banks in large cities paid interest only on the demand deposits of sophisticated customers with large balances and many banking alternatives. These favored customers were mainly other banks, governmental units, large business firms, nonbank financial institutions, and wealthy individuals.

Apparently, interest on demand deposits was viewed as a practice that was appropriately subject to the managerial discretion of each bank. The discussions conducted in the latter 1920's and early 1930's over service charges on demand deposits and the regulation of time deposit rates rarely included references to demand deposit interest. The only concern over interest on demand deposits (other than on bankers' deposits which were held mainly in the form of demand deposits) during the period in question related to the clearing house agreements initiated by the Federal Reserve Board in an attempt to reduce rates on bankers' balances. Even here, however, the topic was, at best, of secondary importance.

[32] H. Parker Willis, *The Federal Reserve System*, New York: The Ronald Press Company, 1928, p. 1544. The various drafts of the Glass bill are given in Professor Willis' book. Professor Willis was Representative Glass' chief economic advisor during the drafting of the Federal Reserve Act.

[33] See, for example, Benjamin H. Beckhart and James G. Smith, *Sources and Movements*, Vol. 2 of *The New York Money Market*, ed. Benjamin H. Beckhart; 4 vols.; New York: Columbia University Press, 1932, pp. 17, 18; and Willis, *op. cit.*, pp. 170-176.

However, the hope that interior banking institutions would thereby become largely divorced from New York and the securities market was for the most part not realized.[34]

Despite the attempt of the framers of the Federal Reserve Act to reduce the dominance of New York City in the banking structure, bankers' deposits and security loans continued to draw large sums from banks across the nation even under the new system. The banks in New York and other large cities continued to channel funds into the securities market, not only to earn the deposit interest they were incurring, but also to provide a service for those correspondents that wished to hold security market loans for secondary reserve purposes. From 1918 to 1919 and 1928 to 1929, this heavy inflow of funds, especially into the security loan market, brought the Federal Reserve System's objective of promoting economic activity into conflict with its desire to restrain inflation and speculative uses of bank credit.[35] As a result, attention was again directed toward the old theme of interest payments on bankers' deposits.

In 1918-19, the monetary authorities were faced with the problem of meeting both general commercial credit needs and the government's demand for funds to finance the war. The Reserve authorities could not restrict the supply of credit for the former (general use), while maintaining low rediscount rates to ensure an ample low cost supply of credit for the latter (Treasury). Since the Federal Reserve continued to support Treasury financing, deposit rates on bankers' balances in New York and other large cities moved upward while the Federal Reserve discount rates remained relatively low. Not until speculation in securities and commodities became widespread did the Federal Reserve Board attempt to curb deposit rates on interbank balances and apply direct pressure on member banks to utilize the rediscount facilities only for "productive credit" needs.[36]

In March of 1918, W. P. G. Harding, Governor of the Federal Reserve Board, published a statement condemning the practice of competing for deposits by paying high rates of interest.[37] Shortly thereafter, the New York City Clearing House Committee, after numerous conferences and considerable pressure by the Federal Reserve Board, reached an agreement to tie the rates paid on commercial and bankers' deposits to the rediscount rate as was done in London.[38] Following this, the monetary authorities also at-

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[34] For discussion of the reasons for this see: Beckhart and Smith, *op. cit.*, pp. 195-232, 278-283; and Watkins, *Bankers' Balances, op. cit.*, pp. 43-63, 370.

[35] The monetary causes of the conflicts in the objectives of the Federal Reserve authorities are not within the scope of this article. The point has been made merely as an introduction to the two periods, when the Reserve authorities' attention was directed toward the relationship of bankers' deposits and security speculation. For a discussion of these two periods, see Milton Friedman and Anna J. Schwartz, *A Monetary History of the United States,* 1867-1960, National Bureau of Economic Research: Studies in Business Cycles, No. 12; New Jersey: Princeton University Press, 1963, pp. 189-301.

[36] The Reserve authorities allowed member banks to utilize their rediscount privilege freely throughout this period. Member banks would often rediscount eligible paper while holding large correspondent balances in New York (or other large cities) in the form of an interbank balance and/or in the form of participation investments with their correspondent bank in the security market. Thus, a large correspondent balance not only earned explicit interest and defrayed in part service charges, but it also was the channel interior banks employed to invest directly in high rate security loans, *Ibid.*, pp. 254-266.

[37] *Federal Reserve Bulletin*, 4, March 1918, p. 160. This statement was prompted after the New York banks raised deposit rates on bankers' balances to 3 percent and other banks in other large cities retaliated with rate increases.

[38] This agreement also tied the rates payable on other demand and time deposits to the New York Federal Reserve Bank's rediscount rate.

tempted to obtain similar agreements with member banks of clearing houses in other major cities since the New York banks feared they would lose bankers' deposits to banks in other cities where higher deposit rates might prevail.

Events in 1919 gave the Federal Reserve authorities, who were impressed by the traditional association of bankers' deposits and call loans, a definite impetus to continue their pressure for clearing house agreements limiting deposit rates. Throughout that year, the discount rates of the Federal Reserve Banks were below current money market rates as well as security loan rates, and the outstanding volume of bills discounted by Federal Reserve Banks exceeded member bank reserves.[39] Therefore, the Federal Reserve Board invited the representatives of 25 clearing houses to a meeting in Washington on January 6, 1920. After adopting a resolution formally condemning the policy of paying high deposit rates on commercial and bank balances, the representatives agreed to hold a meeting of clearing house delegates of the 12 Federal Reserve Bank cities later in the month.[40] At this later meeting, some attention was given to the problem of security loans, and a resolution was adopted stating in part that ". . . no rate in excess of two and one-half per cent should be paid on net and available daily balances of banks and trust companies."[41]

Following this conference (though not necessarily directly related to it), there was a movement to establish clearing house agreements in major cities throughout the country. This appears to have developed without Federal Reserve action, for there is no evidence to indicate that the Reserve authorities continued their active interest in these agreements after they raised the rediscount rates significantly in the early part of 1920. Thereafter, the relationship between bankers' balances and security speculation attracted only periodic attention until the bull market years of 1928-29. The monetary authorities were much more concerned during the intervening period with the amount of security speculation being conducted by member banks, which at the same time were utilizing the discount facilities of the Federal Reserve Banks extensively.[42]

The unprecedented security speculation in 1928-29 revived some interest in the relationship between bankers' deposits and security loans, and again brought the Reserve authorities' objective of promoting economic activity into conflict with their desire to restrain speculative use of bank credit. In the 1918-19 period, when it appeared to the monetary authorities that funds were being induced into speculation by high interest rates in New York and other cities, they had sought to curb deposit rates through the promotion of clearing house agreements. At that time, the New York banks had acted largely as middlemen in making security loans, via bankers' deposits. During the intervening years, deposit rates were held significantly below security loan rates by clearing house agreements, and the New York banks acted frequently

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However, the emphasis was on limiting rates on bankers' deposits according to the National City Bank of New York. On page 5 of its April, 1918, *Monthly Bank Letter*, officials of the National City Bank stated: "The agitation over interest rates on deposits has been settled by action of the Clearing House adopting a sliding scale for correspondent bank balances which were the principal feature of the controversy." For a discussion of this agreement, see: *Federal Reserve Bulletin*, 6, January 1920, pp. 3, 4.

[39] Friedman and Schwartz, *op. cit.*, p. 222.

[40] *Federal Reserve Bulletin*, 6, February 1920, p. 157.

[41] *Ibid.*, p. 157.

[42] See, for example, Federal Reserve Board, *Annual Report*, 1925, pp. 15, 16; and Louis T. McFadden, "Call Loans and Federal Reserve Policies," *American Bankers Association Journal*, 21, October 1928, pp. 291, 293, 373.

as direct agents in the making of security loans for interior banks and nonbank lenders.[43] In fact, the demand for this agency function had become so commonplace by 1926 that the member banks of the New York Clearing House agreed upon a noncompetitive scale of fees for this service.[44]

Realizing that a reduction in deposit rates by New York banks would merely shift more deposits into the securities market, the monetary authorities sought the direct cooperation of the New York banks during this period. The New York banks were encouraged to restrict security loans for their own account and to increase their agency fees. However, despite the substantial cooperation extended by these banks, it was not sufficient to discourage the influx of funds from interior banks and nonbank lenders until the bull market collapsed in October 1929.

The historical argument for the control of deposit rates on bankers' balances had emphasized the relationship of these deposits and security loans. Yet, the abortive efforts of the monetary authorities to control speculation in the late 1920's made it apparent that excessive security loans were not only a function of the volume or rate of interest on bankers' deposits. It also became apparent that the regulation of deposit rates on bankers' deposits would be of doubtful value in periods of high money rates unless alternative channels for investment of funds in security loans were removed.

B. Excessive Rate Competition for Time Deposits

Although some commercial banks had become active competitors for time deposits by the turn of the century, it was not until the passage of the Federal Reserve Act in 1913 that there was a general stimulus for these institutions to increase their time deposits.[45] This stimulus may be traced to provisions of the Federal Reserve Act which placed member banks' time deposits in a separate classification subject to much lower reserve requirements than demand deposits. In addition, the Act granted limited powers to national banks outside the three central reserve cities (New York, Chicago, St. Louis) to invest a portion of their time deposits in farm mortgage loans. Subsequent amendments reduced the legal reserve requirements on time deposits to 3 percent, and authorized national banks to lend on residential as well as farm mortgages. As a result of this legislation, state banking laws were quickly, and often more substantially, revised to eliminate any competitive advantage enjoyed by national banks in the time deposit field.

As commercial banks rapidly expanded their time deposit business, their total interest payments also increased substantially. Following the banking collapse, wide publicity was given to the growth of time deposits and the substantial inter-

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[43] For a discussion of this subject, see Benjamin H. Beckhart, *Uses of Funds*, Vol. III, of *The New York Money Market*, ed. Benjamin H. Beckhart, 4 vols.: New York: Columbia University Press, 1932, pp. 128-198.

[44] *Ibid.*, pp. 50, 163.

[45] The National Banking Act made no distinction between demand and time deposits. Only 11 states had drawn a legal distinction between time and demand deposits and imposed different reserve requirements when the Federal Reserve Act drew a similar distinction. For discussion, see R. G. Rodkey, *Legal Reserves in American Banking*, "Michigan Business Studies," Vol. 6, No. 5, Ann Arbor: University of Michigan, Bureau of Business Research, 1938, pp. 404-412.

It was not until the McFadden Banking Act of February 25, 1927, that the twofold aspect of nondemand deposits—savings deposits and time deposits—was legally recognized for national banks. The term time deposits will be used throughout this article to reflect both aspects of nondemand deposits unless the context of the discussion clearly indicates otherwise.

est expense, developments that had received little attention before the late 1920's.[46] This is significant, inasmuch as the second principal argument cited in support of the deposit rate provisions of the Banking Acts of 1933 and 1935 was that many banks had engaged in excessive rate competition which led to unsound banking practices. The "sound banking argument" for the control of deposit rates maintained that when banks are relieved of the competitive necessity of paying high rates of interest on deposits, they will hold higher quality earning assets and develop stronger capital positions via higher earnings. Stated conversely, the argument maintained that rather than reduce deposit rates with the accompanying risk of deposit loss, the individual bank would be induced to acquire higher yielding assets, and thus possibly impair its liquidity and solvency.

Although this argument for the control of deposit rates did not become prevalent until the late 1920's, it is nearly as old as the "money crisis argument,"[47] and it is presently the popular justification for Federal control of interest payments on deposits.[48] The sound banking argument arose in this country mainly in relation to the deposit guaranty programs established by eight states during the period 1908-17.[49] In the eight states that adopted deposit guaranty, the program was accompanied by a statutory limitation on deposit rates or a requirement that the state banking authority issue such a rate regulation. The limiting of interest rates payable on deposits was a measure designed in part to overcome the opposition of those bankers who felt that the program would encourage reckless banking because depositors would seek the bank with the most liberal terms rather than the safest bank.[50] There is little evidence to indicate that the undesirable effects of vigorous rate competition among a rapidly rising number of both new banks and failing banks elicited the attention of banking officials elsewhere before the late 1920's.[51]

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[46] Rate competition for time deposits and the resulting pressure to earn the large interest expense has often been viewed as a primary cause of banks' vulnerable loan and investment accounts which contributed so largely to bank failures during the 1920's and 1930's. See, for example, H. Parker Willis, John M. Chapman, and Ralph W. Robey, *Contemporary Banking*, New York: Harper and Brothers Publishers, 1933, pp. 487-498, 554-564; and *The Federal Reserve And The Treasury: Answers to Questions From the Commission On Money and Credit*, Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963, p. 184.

[47] Mints, *op. cit.*, pp. 184-185, observed that: "A foreshadowing of a point of view which is widely held at the present time in the United States is to be found during the years under discussion. Palgrave, Stephen Cave, and Thomas Cooke asserted that the payment of interest on deposits induced the bankers to make loans that were unduly risky." The Palgrave citation is to his *Bank Rate and the Money Market* (1903), p. 61; while the Cave and Cooke statements are from pages 240 and 352, respectively, of Great Britain, Parliament, House of Commons, *Report from the Select Committee of Issue* (1875).

[48] See, for example, Commission on Money and Credit, *Report of the Commission on Money and Credit, Their Influence on Jobs, Prices and Growth*, Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1961, p. 167.

[49] A list of the eight states and some discussion of their deposit guaranty programs can be found in the Federal Deposit Insurance Corporation, *Annual Report*, 1952, pp. 59-72; 1956, pp. 47-73.

[50] An early discussion of these eight deposit guaranty programs and arguments surrounding their inception can be found in, Thomas B. Bobb, *The Guaranty of Bank Deposits*, New York: Houghton Mifflin Co., 1921. The discussions on pp. 79, 115, 180-199 are of particular relevance to the sound banking argument for the control of interest rates on time deposits.

[51] In 1915, the Comptroller of the Currency recommended deposit rates be limited to 4 percent, providing that, if the rediscount rate were higher than 4 percent, national banks might pay a rate equal to the regional Reserve bank's rediscount rate; and if state laws fixed the maximum rate, national banks in such states were to be governed by the state statute. It is significant that this recommendation was included under

The Federal Reserve authorities, whose conception of the deposit rate question was essentially limited to commercial and bankers' deposits held in large city banks, expressed concern over the rapid growth of time deposits throughout this period (1914-30). However, their concern was stimulated because many banks, as a competitive measure to attract deposits, allowed both corporations and individuals to shift demand deposits into time deposits. Competition became so keen in the 1920's that it was not unusual for banks to consistently waive their right of advanced notice of withdrawal and even allow limited withdrawal of time deposits by check.[52] These practices not only resulted in a larger base for credit expansion, but they also substantially increased bank interest costs. However, the Reserve authorities viewed these practices as harmful only to their objective of promoting economic activity without allowing speculative use of bank credit. In the *Annual Report* for 1927, the Federal Reserve Board stated:[53]

> The continuous growth of time deposits in recent years at a rate more rapid than the growth in demand deposits has resulted in an increase in the proportion of the banks' deposit liabilities that is represented by time deposits. . . . It is impossible to determine to what extent the growth of time deposits represents funds placed at the disposal of the banks by savings depositors, who use this channel of investment, and to what extent it is the consequence of an increase in the practice on the part of businessmen and corporations of carrying deposits, not immediately required for current operations, as time deposits rather than as demand deposits. Whatever the origin of the time deposits, however, the fact that the total of demand and time deposits has increased during the year indicates that member banks have had an increased volume of funds available for use in extending credit for long or short periods to the different enterprises in the country. Furthermore, the fact that time deposits have increased more rapidly during recent years than the investments of member banks indicates that a considerable proportion of funds representing time deposits has been used in the granting of loans and particularly of loans in securities.

The Federal Reserve authorities did not revise their deposit definitions in order to restrain this shifting of essentially demand deposit funds into time deposits, nor did they move to restrain vigorous rate competition for time deposits. In fact, in 1926 when the McFadden Banking Bill was under congressional consideration, the Federal Reserve Board opposed that portion of the bill which provided that the deposit rates that national banks could pay would not exceed the rates authorized for state banks or trust companies.[54] At that time, there were at least three states that had a maximum permissible rate of interest on time

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the general caption, "to prevent bank failures." In later connections, the Comptroller stressed only the payment of interest on bankers' deposits, pointing out that it promoted speculation and high loan rates. Comptroller of the Currency, *Annual Report*, 1915, 1, p. 33; 1916, 1, pp. 16-17; 1920, 1, 79-107.

[52] See, for example, Federal Reserve Board, *Annual Report*, 1928, p. 228; Federal Reserve Bank of Boston, *op. cit.*, pp. 12, 14; and Friedman and Schwartz, *op. cit.*, pp. 276-278.

[53] Federal Reserve Board, *Annual Report*, 1927, pp. 7, 8.

[54] Representative McFadden introduced into the record of the Senate hearings portions of a written report the Federal Reserve Board had sent him concerning various provisions contained in his bill. The Board's opinion is contained in that report. See, U.S., Congress, Senate, Subcommittee of the Committee on Banking and Currency, *Hearings on S. 1782 and H.R. 2, Consolidations of National Banking Associations*, 69th Cong., 1st Sess., 1926, p. 19.

deposits, in addition to the states that regulated interest rates under the provisions of their deposit guaranty programs. The State of Kansas had raised its original 3 percent rate limit on time deposits after state banks complained the low rate was a handicap in their competition with national banks.[55] Despite the opposition of the Reserve authorities, the right of states to limit time deposit rates for all banks in their boundaries was enacted into law on February 25, 1927.[56] This provision no doubt contributed to the limited movement by states during the next few years to regulate rates on commercial bank deposits.

The criticism of vigorous rate competition among banks for time deposits arose from the bankers whose banks were experiencing a profit squeeze. Bank profit ratios had been declining throughout the 1920's as the spread between interest paid and interest earned per hundred dollars of loans and investments narrowed considerably.[57]

At the same time, the rates paid on time deposits were under constant pressure as aggressive bankers seeking deposits raised rates, only to be matched by the defensive rate increases of bankers fearful of losing deposits. Thus the "sound banking argument" would conclude that even conservative bankers were eventually forced to pay higher rates and, as a consequence, impair the soundness of their banks by switching to high risk assets in order to meet the higher deposit costs. One banker aptly described the competitive struggle when he stated:[58]

> They [the bankers] feel themselves caught between an upper and a nether mill stone. If they pay high interest rates on deposits, they cannot buy government securities, acceptances, outside commercial paper and other highly liquid obligations with their depositors' money. If, on the other hand, they pay low interest on deposits, they fear they will lose business to competitors.

By 1926, rates on time deposits were as high as 6 and 7 percent in some localities although 4 to 5½ percent rates were more typical in most sections of the country.[59] Therefore, as the general level of loan and investment yields declined from its 1920 peak, bankers began to call for a corresponding reduction in deposit rates. As a result, the undesirable consequences of excessive rate competition for time deposits were often discussed in articles in banking journals and by speakers at banking conventions throughout the period 1926-30. Bankers

[55] Bobb, *op. cit.*, pp. 113-115.

[56] Section 24 of the Federal Reserve Act was amended by Section 16 of the February 25, 1927, McFadden Act to read as follows:

> Such banks may continue hereafter as heretofore to receive time and savings deposits and to pay interest on the same, but the rate of interest which such banks may pay upon such time deposits or upon savings or other deposits shall not exceed the maximum rate authorized by law to be paid upon such deposits by state banks or trust companies organized under the law of the state wherein such nation banking association is located.

The complete text of this Act can be found in the *Federal Reserve Bulletin*, 13, March 1927, pp. 181-186. This aspect of the proposed law received little attention as many other important issues, such as real estate loans and branching privileges for national banks, were the center of discussion. No doubt in part, the provision was but one aspect of the general redressing of privileges between state and Federal banking organizations.

[57] For discussions of the profit squeeze experienced by banks in the late 1920's see: *Federal Reserve Bulletin*, 24, February 1938, pp. 108-111; and Charles E. Mitchell, "Interest Rates on Bank Deposits," *American Bankers Association Journal*, 20, February 1928, pp. 585-587, 662.

[58] This statement was made by John McHugh, President of the Chase National Bank in New York. *The Commercial and Financial Chronicle*, 125, Part II, November 1927, p. 2344.

[59] For discussion of the magnitude of interest rates on time and savings deposits, see: Federal Reserve Bank of Minneapolis, *Monthly Review*, July 1926, p. 248; and "What Rate on Deposits?," *American Bankers Association Journal*, 20, June 1928, pp. 848, 922, 923.

were advised to form cooperative agreements with their competitors through local clearing houses or district banking associations and to reduce competitive time deposit rates as well as initiate service charges on demand deposit accounts.[60] However, the fear of loss of deposits to competitors restrained any widespread reduction of deposit rates until the onset of the Great Depression. In the interim, concerted action among competitors and the regulation of maximum rates at the state level had begun to evolve as possible solutions to the deposit rate competition problem.[61]

Most of the banks that failed during the twenties were small banks, many of which had a high ratio of time deposits to demand deposits. The opinion was not uncommon among bankers and students of banking at the time that the high rates of interest paid by a large number of these banks had contributed to their failure. Dr. H. Parker Willis, who served as advisor to Senator Glass in the preparation of the Senate version of the Banking Act of 1933, and two of his associates described the prevailing attitude toward the deposit rate question when they stated:[62]

> Competition among commercial banks has been very keen in this country the past two or three decades. The conservative type of banker, who held the view that he should wait for business to come to him, has learned to his own sorrow that the business frequently goes elsewhere. Many bankers who followed this principle of inactivity have lost relatively, if not actually, in the volume of business to the more aggressive, up-to-date banks. The creation of too many banks in some parts of the country has increased the difficulty of getting new business or even holding it, once it has been obtained. . . .
>
> Efforts to secure business have frequently driven interest rates to higher levels, with the result that the total cost to the bank in securing business was so great that it was forced to seek and obtain an outlet for funds that promised a high return. This was necessary for the reason that the bank had to have a relatively large income in order to meet the cost of doing business and still have some income out of which to pay dividends to its stockholders. Such competition led directly in many cases to what may be regarded as speculative banking, especially as regards the loans and investments made by the bank itself . . . There is no doubt that payment of higher interest rates has been the cause for the making of speculative loans and the purchase of doubtful securities which have in turn, contributed so largely to bank failures during the past decade in this country.

Nevertheless, as the banking situation rapidly deteriorated in the early 1930's, the reduction of interest rates on time deposits became widespread, and as a

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[60] Proposals such as this were often offered after 1926. See, for example, Bank Management Commission, *Commercial Bank Management Studies,* Booklets R and C, New York: American Bankers Association, 1930; and W. L. Brooks, "Regional Co-operation Pays Dividends," *Commercial and Financial Chronicle,* pp. 110-112; and S. L. Cantley, "Organized Co-operation, the Basis of Sound Banking," *Commercial and Financial Chronicle,* American Bankers Association Convention Supplement, 129, October 1929, pp. 106, 107, 108.

[61] During the 6-year period following the 1927 McFadden Banking Act, a dozen states enacted laws providing for the control of interest rates on commercial bank deposits. These laws often resulted in part from state banking associations' requests for a legislative solution to the deposit rate competition problem. For discussion, see N. H. Dosker, "Kentucky Bankers Act to Hold Down the Rate on Time Deposits," *American Bankers Association Journal,* 19, August 1926, pp. 81, 108, 109; A. J. Veigel, "Interest Rates on Deposits," *American Bankers Association Journal,* 21, October 1928, pp. 297, 413; "A Curb on Interest on Savings," *American Bankers Association Journal,* 21, July 1928, p. 5; Charles Linke, "Interest Rate Regulation On Commercial Bank Deposits: Its Evolution and Impact In The State Of Indiana," unpublished dissertation, Indiana University, 1965, pp. 31-44, 100-114.

[62] Willis, Chapman, and Robey, *op. cit.,* pp. 487, 559, 560.

result the deposit rate question received little additional attention as bankers faced the much more immediate problems created by the Great Depression.

III. The Initiation of Federal Control

The first definite steps in the banking reform movement, which culminated in the Banking Act of 1933, were taken by Congress early in 1930 when both the House of Representatives and the Senate adopted resolutions directing their Banking and Currency Committees to obtain information and recommend legislation.[63] The banking reform leaders, Representative Henry Steagall, Chairman of the House Banking and Currency Committee, and Senator Carter Glass, veteran legislator and one of the authors of the Federal Reserve Act, introduced 11 different bills during the period 1930-33 before the Banking Act of 1933 became law.[64]

From early 1932 until the passage of the Act in June 1933, the various Glass and Steagall bills were important measures before Congress. The congressional investigations leading to the Banking Act of 1933 covered a wide range of banking problems, and the numerous bills introduced offered a variety of solutions. The provisions dealing with the control of deposit rates were only a small part of this proposed legislation. Nevertheless, bankers' deposits and agency loans were still subjects of concern, although other factors such as Federal Reserve policy, branch banking, deposit guaranty, security loans, and investment banking affiliates dominated the discussions. Thus, for the most part, the deposit rate question was greatly overshadowed by these other issues that were considered more vital at the time.

There must have been either widespread agreement regarding the desirability of regulating the payment of interest on deposits or at least very little objection to it, for there were very few references to this question either during the four congressional hearings on banking legislation that were held in the early 1930's or during the congressional debates concerning these bills.[65] The numerous organizations and individuals who studied banking conditions and the proposed legislation likewise exhibited but a passive interest in the deposit rate provisions of the various bills. The arguments supporting deposit rate control were presented mainly by Representative Steagall and Senator Glass as they defended their bills. The reasons they advanced in support of the regulation of deposit rates were essentially the same as those that were prominent in the past—namely, the "interbank deposit argument" and the "sound banking argument."

The principal contribution made by

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[63] House Resolution Number 141, 71st Cong., 2nd Sess., was passed February 10, 1930. Senate Resolution Number 71, 71st Cong., 2nd Sess., was passed May 5, 1930.

[64] Senator Glass introduced six distinct bills. These were: S. 4723, 71st Cong., 2nd Sess., introduced June 17, 1930; S. 3215, S. 4115, S. 4412 all introduced in the 72nd Cong., 1st Sess., on January 21, March 17, and April 18, 1932, respectively; S. 245 and S. 1631, introduced in the 73rd Cong., 1st Sess., on March 11 and May 10, 1933. Three of the bills, S. 4723, S. 4412, and S. 245 contained no provision relating to the regulation of interest on deposits.

Representative Steagall introduced five different bills. These were: H.R. 11147, 71st Cong., 2nd Sess., introduced March 26, 1930; H.R. 10241 and H.R. 11362, 72nd Cong., 1st Sess., introduced March 7 and April 14, 1932; H.R. 5598 and H.R. 5661, 73rd Cong., 1st Sess., introduced May 10 and May 17, 1933. All of the bills except the first, H.R. 11147, contained deposit rate regulation provisions.

[65] One notable exception to this statement was the opposition of the Federal Reserve Board to deposit rate regulation. See U.S., Congress, Senate Committee on Banking and Currency, *Hearings on S. 4115, Operation of the National and Federal Reserve Banking Systems*, 72nd Cong., 1st Sess., 1932, pp. 396, 420.

Representative Steagall was the deposit guaranty section of the 1933 Act. The first bill introduced by Representative Steagall in March 1930 (H.R. 11147) contained no provision relating to the regulation of interest rates on bank deposits. H.R. 10241 and H.R. 11362, which Steagall introduced in March and April of 1932, provided for a maximum rate of interest on Federal Reserve member banks' deposits of 4 percent, with no distinction between demand and time deposits.[66] Since the deposit guaranty programs contained in the bills originally provided that all state banks participating in the deposit insurance plans must eventually become Federal Reserve members, the 4 percent limit would have applied to all insured banks. State deposit guaranty programs as well as 9 of the 128 previous Federal deposit guaranty proposals had included interest rate limitations to prevent "excessive" rate competition, and this would appear to be the rationale for the rate provisions in these bills.[67] This was indicated by Representative Steagall when he stated:[68]

> Another provision of the bill prevents any member bank of the Federal Reserve System from paying more than four per cent on deposits. This is an arbitrary figure. I am not prepared to say no other figure would answer as well, but certain it is if other provisions of the bill are to be enacted into law, we should have a maximum limitation on the interest to be paid on deposits. In the absence of such a limitation a weak bank, or a poorly managed bank, would have an advantage over the sound institution or the one that is prudently and conservatively managed. So unquestionably there should be some limitation upon the interest rate to be paid. . . . This is simply a safeguard against any improper practice on the part of a bank that might tend to pay an unfair rate as against a bank more conservatively conducted.

Representative Steagall's reliance upon the logic of the "sound banking argument" suggests that the interest rate provision was designed to eliminate "excessive" competition among banks for *both* time and demand deposits. Although Representative Steagall indicated he would not overlook the suggestions made during the hearings on H.R. 11362 that interest payments on demand deposits should not be allowed, he did not amend the bill to include a provision prohibiting interest on demand deposits before it passed the House in May 1932.[69] Nor did he include the prohibition of interest on demand deposits in the deposit rate provision of the two bills (H.R. 5598 and H.R. 5661) he introduced at the beginning of the first session of the 73rd Congress. H.R. 5661, which replaced H.R. 5598, provided:[70]

> Sec. 10(b). The Federal Reserve Board shall from time to time limit by regulation the rate of interest which may be paid by member banks on deposits, and may prescribe different rates for such payments on time and savings deposits having different maturities or subject to different conditions respecting withdrawal or repayment.
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> Sec. 307. No member bank of the Federal Reserve System shall after the date of enactment of this Act, and no state bank or trust company, not a member bank, shall, after it has become entitled to a

[66] Federal Deposit Insurance Corporation, *Annual Report,* 1950, pp. 96, 97.

[67] See, Federal Deposit Insurance Corporation, *Annual Report,* 1950, pp. 63-101; 1952, pp. 59-72; 1956, pp. 47-73.

[68] U.S., *Congressional Record,* 75, Part 10, May 25, 1932, pp. 11212, 11446.

[69] U.S., Congress, House, Subcommittee of the Committee on Banking and Currency, *Hearings on H.R. (10241) 11362, To Provide A Guaranty Fund For Depositors In Banks,* 72nd Cong., 1st Sess., 1932, pp. 70, 71, 81.

[70] U.S., Congress, House, H.R. 5661, 73rd. Cong., 1st Sess., 1933, Section 10(b) and Section 307.

> participation in the benefits of this title [Title III—Federal Deposit Insurance Corporation], pay interest at a greater rate than three per centum per annum with respect to any time deposit made in such bank.

Inasmuch as the deposit insurance system contained in H.R. 5661 did not provide that all insured state banks must become Federal Reserve members, Representative Steagall had evidently included the above rate provisions in order to limit both member banks (whose membership in the insurance program were mandatory) and nonmember insured banks to a maximum permissible interest rate of 3 percent on time and savings deposits. Despite Representative Steagall's expressed concern regarding the payment of interest on demand deposits, it is clear that his deposit rate provisions were not designed specifically to prohibit this practice by law. Only the deposits of member banks were subject to some degree of discretionary regulation, and Section 10(b) vested this regulatory authority in the Federal Reserve Board, which could decide the rate (including zero) to be paid on demand deposits and time and savings deposits.

It was Senator Glass who succeeded in obtaining a prohibition of interest payments on demand deposits by the use of an argument that logically applied only to banker's deposits. Although Senator Glass was impressed by the traditional association between banker's deposits and speculative loans, he did not include a deposit rate provision in his first bill, S. 4723, introduced January 17, 1930. The next two bills introduced by Senator Glass in January and March of 1932, S. 3215 and S. 4115, included deposit rate regulations that would have limited the rate payable on bankers' balances to 2½ percent or the rediscount rate of the district Federal Reserve bank, whichever was lower. All other deposits, whether demand or time, were subject to a fixed maximum rate equal to one-half the usury rate.[71] Neither of these bills was reported out of committee.

The two Glass bills that were introduced following S. 4115 (S.4412, which passed the Senate in the last session of the 72nd Congress, and S. 245, which was introduced at the beginning of the first session of the 73rd Congress) contained no provision relating to the regulation of interest rates on deposits. S. 245 was not reported by the Banking and Currency Committee, for it was replaced by S. 1631, which was essentially the same bill, with the Federal Deposit Insurance Corporation substituted for the Federal Liquidating Corporation. S. 1631, introduced on May 10, 1933, prohibited member banks from paying interest on any demand deposit and authorized the Federal Reserve Board to limit by regulation the maximum rate of interest payable by member banks on time and savings deposits.[72] Moreover, since this bill required banks desiring to participate in the deposit insurance program to become members of the Federal Reserve System, the interest rate provisions would also have applied to all insured banks. It was in defense of the latter bill that Senator Glass urged the prohibition of interest payments on demand deposits using the "interbank deposit argument" that logically applied only to bankers' balances. Senator Glass stated his position on the question several times in speeches before the Senate in 1933. In one speech he stated:[73]

> Then another provision of the bill in which I should like to enlist the interest

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[71] U.S., Congress, Senate, S. 3215, 72nd Cong., 1st Sess., 1932, Section 28; and U.S., Congress, Senate, S. 4115, 72nd Cong., 1st Sess., 1932, Section 24.

[72] U.S., Congress, Senate, S. 1631, 73rd Cong., 1st Sess., 1933, Section 11(b).

[73] U.S., *Congressional Record*, 77, Part 4, May 19, 1933, p. 3729. For similar statements by Senator Glass, see: *Ibid.*, pp. 4165, 4166, 4169.

> of the Senate particularly is a prohibition against the payment of interest on demand deposits by commercial banks. There are various reasons for that, some of them, I think, compelling. The payment of interest on demand deposits has resulted for years and years in stripping the country banks of all their spare funds, which have been sent to the money centers for stock speculative purposes. When we adopted the Federal Reserve Act and rescued the reserve funds for trust funds of the national banking system from the stock gamblers we had hoped that they would be impressed by the fact that that would be a salutory lesson to all member banks of the system. We had hoped that they would be impressed by the fact that they were no longer in involuntary servitude to their correspondent banks and that they would deal with the rational reserve banks than with the banks in the money centers. But we have been disappointed in that respect. . . . Bankers are the only people on earth that utterly disregard the law of supply and demand. They would have their standard rates and stick to them and would rather send their surplus funds to New York to be used for stock-gambling purposes at a wonderful rate of two per cent, reduced now, I think, to one and one-half per cent, than to loan to their merchants and businessmen at less than their standard rate. So that the payment of interest, particularly on bank demand deposits, has resulted in drawing the funds from the country banks to the money centers for speculative purposes to be polite about the matter.

Although this historic argument was logically related to bankers' deposits, whether demand or time deposits, Senator Glass tied the argument to all demand deposits, irrespective of whether they were bankers' accounts, in urging the prohibition of the payment of interest on demand deposits by commercial banks. This was the only argument offered in defense of this provision.[74] It was voiced several times during the discussion of this bill on the Senate floor, but this provision attracted little attention and apparently no dissent.

The Glass bill's provision for the regulation of interest rates payable on time and savings deposits was somewhat different than the 3 percent limit contained in the Steagall bill (H.R. 5661). Under the Glass bill, the Federal Reserve Board would not be constrained by any statutory rate limit when determining the maximum permissible rate of interest payable on time and savings deposits. However, Senator Glass used essentially the same argument for this provision as Representative Steagall had employed when he stated:[75]

> We confide to the Federal Reserve Board authority which it does not now possess . . . to regulate interest on time deposits in order to put a stop to the competition between banks in payment of interest, which frequently induces banks to pay excessive interest and has many times over again brought banks into serious trouble.

The Glass bill (S. 1631) was nearing a vote in the Senate when the House passed the Steagall bill (H.R. 5661) which was comparable in many provisions to the Glass bill. Instead of adopting the Glass Bill under its own title, the Senate passed the House bill after striking out all of the bill following the enacting clause and inserting the amended version of the Senate bill. Ul-

[74] Senator Glass did, at one point, briefly defend his prohibition of interest on demand deposits with the argument that the savings from not paying interest on demand deposits would more than offset the cost of deposit insurance. However, in view of the emphasis by Senator Glass on other reasons for the prohibition of interest on demand deposits, he probably considered its relation to deposit insurance assessments to be incidental. See, *Ibid.*, p. 4168.

[75] U.S., *Congressional Record*, 77, Part 4, May 19, 1933, p. 3729.

timately, this bill with the number of a House resolution, but with the text of a Senate bill, was reported favorably by the resulting conference committee on June 12th with only minor modifications. This bill passed both houses without lengthy discussion on June 13, and was signed by President Roosevelt three days later.

Section 11(b) of the Banking Act of 1933 amended Section 19 of the Federal Reserve Act and initiated the following interest rate controls on commercial bank deposits:[76]

> No member bank shall, directly or indirectly by any degree whatsoever, pay any interest on any deposit which is payable on demand. . . . The Federal Reserve Board shall from time to time limit by regulation the rate of interest which may be paid by member banks on time deposits and may prescribe different rates for such payment on time and savings deposits having different maturities, or subject to different conditions respecting withdrawal or repayment, or subject to different conditions by reason of different locations.

The Banking Act of 1935 made permanent the temporary deposit insurance program inaugurated January 1, 1934, and conferred upon the board of directors of the Federal Deposit Insurance Corporation the same basic rate-regulating authority over insured nonmember banks.[77]

IV. Conclusion

The wisdom of paying interest on commercial bank deposits was intermittently debated in the United States for nearly a century before Federal legislation was adopted. Although vast changes have been introduced in banking in the last three decades, the basic structure of interest rate regulation has remained unaltered since the time of its enactment in the throes of the Great Depression. This review of the events leading up to the adoption of rate regulation suggests that legislative action was forthcoming in 1933 primarily because rate controls were considered an essential reform measure to guarantee "sound banking"—especially under a deposit insurance program. The prohibition of interest payments on all classes of demand deposits appear to have been mainly an outgrowth of historical fears regarding bankers' balances.

[76] *Federal Reserve Bulletin*, 19, June 1933, pp. 394-395. The entire bill was printed in this issue and can be found on pp. 385-401.

[77] *Federal Reserve Bulletin*, 21, September 1935, p. 612. The complete text of the Banking Act of 1935 is reprinted on pp. 602-623.

►RICHARD WARD

Demand Deposit Interest and Monetary Policy

The prohibition on demand deposit interest, enacted with little debate in the frenzy of the Depression, deserves a rehearing in these more prosperous times. The principal motivations for the original legislation were threefold: to relieve pressure on bank earnings, to reduce the flow of funds to stock market loans via interbank balances, and to reduce the incentive for banks to reach for risky, high-earning assets. Among the developments since 1933 which call for a re-examination of these premises are:

(1) The rising importance of the Federal funds market and other forms of interbank lending. If there is an incentive for funds to flow, means other than interbank deposits can be devised, the Federal funds market being only one example of such an alternative.

(2) The control of stock market credit through margin requirements. This direct way of curbing speculative financing abrogates the need, if it ever existed, to control the flow directly.

(3) The increased liquidity of time deposits. The negotiable certificate of deposit and the present policy of near-demand redemption of savings deposits moves these assets very close to demand deposits, but with lower reserve requirements.

(4) The direct regulation of assets. Part of the objective of the original prohibition was to discourage banks from reaching for unsound assets in order to provide earnings to meet competitive pressure to pay deposit interest. Examina-

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tion of banks and direct regulation of their assets, along with capital requirements and deposit insurance, lessen the need for this indirect safeguard.

(5) The growth of bank earnings. The enactment of deposit insurance involved an assessment of banks, and the deposit interest prohibition was aimed at helping banks reduce their costs to allow for the assessment. With the growth of bank earnings, this purpose no longer serves today.

(6) The development of the Euro-dollar market. Foreign banks are allowed to extend more liberal deposit terms than American banks.[1] Some foreign banks pay interest on demand deposits, and many attract dollars by paying interest on short-notice deposits.

(7) The payment of implicit interest. By rendering depositor services, banks are paying implicit interest on deposits.

Many of the above considerations have been explored in the literature on this subject.[2] The principal purpose of this paper is to consider the effects on monetary policy and market interest rates of removing the ban on demand deposit interest payments—an aspect of the question which has received little attention. The most prevalent presumption seems to be that lifting of the prohibition would raise interest costs.[3] Warburton, for example, assumes that the removal would increase bank costs, causing a rise in bank lending rates which would tend to spill over into the rest of the market. But this would not necessarily be the case if lending rates and deposit rates are simultaneously determined in a market guided by monetary policy.

Conventional interest theory analyzes the interest rate through the interaction of the demand and supply functions for a stock of money, where money is defined as demand deposits and currency. The demand varies inversely with interest rates. The money supply is taken to be exogenously determined by the central bank, and thus, interest inelastic. The interest rate adjusts to bring equilibrium between money demand and money supply.

The question of what to include as money has been increasingly perplexing, with the growth in importance of assets with near-money characteristics. (The deposit interest ban has no doubt contributed to the growth of such assets.) Some writers have suggested that more

[1] For instance, in Belgium during the summer of 1965, sight (demand) deposits carried a rate of ½ percent while 15-day notice deposits earned 1.3 percent. In the United Kingdom 7-day notice Euro-dollar deposits paid nearly 5 percent.

[2] Milton Friedman, *A Program for Monetary Stability*, New York: Fordham University Press, 1960; George J. Benston, "Interest Payments on Demand Deposits and Bank Investment Behaviour," *Journal of Political Economy*, LXXII, October, 1964, 431-449; Donald Hodgman, "The Deposit Relationship and Commercial Bank Investment Behavior," *Review of Economics and Statistics*, XLIII, August 1961, 257-268; James Tobin, "Towards Improving the Efficiency of the Monetary Mechanism," *Review of Economics and Statistics*, XLII, August 1960, 276-279; Clark Warburton, "The Prohibition of Interest on Demand Deposits," *The Federal Reserve System after Fifty Years*, Hearings of the Committee on Banking and Currency, U.S. House of Representatives, 1964, pp. 2080-2092. Other witnesses who testified in these hearings also commented on the prohibition. See also the testimony of Paul Samuelson, Hearings of the Canadian Royal Commission on Banking and Finance, Nethercut and Young transcript, Ottawa, 1962, Vol. 50, p. 6285.

[3] When demand interest was paid, demand deposit rates were about one-half of time deposit rates and were also lower than market rates. In 1929, for instance, the average rate paid on individual's demand deposits by member banks was 1⅓ percent, while the commercial paper rate had a range of about 4 to 5 percent during that year. Generally, only larger depositors received interest, with a minimum balance of about $500 required. Foreign balances received the highest rate, followed in order by domestic interbank balances and domestic private balances. Government deposits also bore interest.

of these assets must be incorporated in the analysis, including them in both the demand and supply functions.[4] The difficulty with this approach is that supply and demand become functions of the difference between market rates and the rate on the asset in question, and thus the two are no longer direct functions of "the interest rate."

Another method maintains the conventional definition of money, but recognizes that near-money assets reduce the demand for money.[5] Currency and demand deposits are assumed to be a given variable. If demand deposits pay interest, supply elasticity must be recognized, and again the problem of the rate on the deposit asset emerges. With deposit interest, money is no longer an outside variable, if indeed it ever was.

A third approach narrows the definition of money for purposes of interest rate analysis to currency and bank reserves, *i.e.*, monetary liabilities of the government.[6] The total of the two liabilities outstanding is a monetary policy decision, though the proportion of each is determined by the public.

Analysis of the market for reserves and currency seems to be the most fruitful approach to the problem of deposit interest. Reserves and currency are more homogeneous than currency and demand deposits. Reserves and currency are alternative forms of government money with identical liquidity and safety; both are "outside" claims of the public in that the private sector has no offsetting liability. In conventional analysis, demand deposits are classed with currency, yet as claims of the private sector matched partly by private liabilities, they are closer to time deposits than to currency. More importantly, however, demand deposits are partly endogenously determined within the economic system, at least if they bear interest, whereas government monetary liabilities are an outside variable.

Claims against the government are the ultimate form of liquidity which the financial markets demand. A commercial bank which bids on time deposits is not seeking the monetary liability of another bank; it is seeking Federal funds—the liability of the government—which is the form in which the bank must make interbank settlements. The inclusion of demand deposits and the exclusion of all other private assets in monetary analysis leads to much confusion. The novice can well be excused for asking how banks acquire "funds" by the issuing of deposit certificates, promissory notes, and the like, when elsewhere he is told it is the banking system which "creates" funds. The problem can be handled in terms of the reduction of deposit "potential" in one bank and its increase in another, thereby staying on the liability side of the banks' balance sheets, but it seems simpler to handle directly the asset traded. It is, in fact, reserve assets—claims against the central bank—which the market demands and supplies.

To be sure, demand deposits affect interest rates; they reduce the need for the public's direct monetary claims against the government, but so do time deposits and other liquid assets. Such deposits are the means by which the community stretches its available outside claims on the government. Under the 100 percent reserve plan, demand deposits would not be able to stretch government money, but this would not prevent the emergence of other financial claims which

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[4] R. J. Ball, *Inflation and the Theory of Money*, Chicago: Aldine Publishing Co., 1964, pp. 163-182.

[5] John G. Gurley, *Liquidity and Financial Institutions in the Postwar Period*, Joint Economic Committee, United States Congress, Jan. 25, 1960.

[6] Lyle E. Gramley and Samuel B. Chase, Jr., "Time Deposits in Monetary Analysis," *Federal Reserve Bulletin*, LI, October 1965, 1380-1406; and James Tobin and William C. Brainard, "Financial Intermediaries and the Effectiveness of Monetary Controls," *American Economic Review*, LIII, May 1963, 383-400.

could serve in some degree as money substitutes.

In formulating his liquidity preference theory, Keynes said:

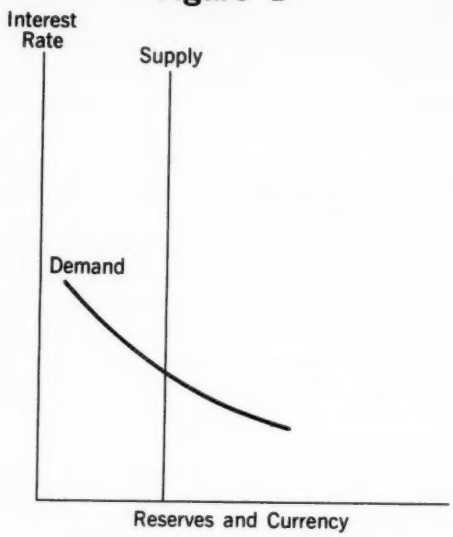
> . . . we can draw the line between "money" and "debts" at whatever point is most convenient for handling a particular problem. For example, we can treat as *money* any command over general purchasing power which the owner has not parted with for a period in excess of three months, and as *debt* what cannot be recovered for a longer period than this; or we can substitute for "three months" one month or three days or three hours or any other period; or we can exclude from *money* whatever is not legal tender on the spot.[7]

Under present institutional arrangements, it seems better to draw the line narrowly at the point at which the sharpest change in the nature of the asset occurs. Surely Federal Reserve deposits differ from bank demand deposits by more than demand deposits differ from savings-type deposits.

The combined amount of reserves and currency is determined by monetary policy. The demand for reserves and currency is inversely related to the interest rate. The interest rate is determined at the point where the demand and supply of this government money intersect, as shown in Figure 1. This is static analysis (with its usual limitations) in which prices, national income, and reserve requirements are held constant. The demand for reserves would rise with an increase in reserve requirements on either demand or time deposits or with an increase in national income. The demand would also rise as a result of any development which stopped the community from economizing on reserves, such as a prohibition on ready withdrawal of savings deposits.

Suppose that Figure 1 shows the schedules determining the interest rate with

Figure 1



demand deposit interest prohibited. If the government lifts the prohibition, the positive rate of return on demand deposits will cause a shift in preferences to them. This shift will increase the banks' demand for reserves to meet the increased deposit demand, shifting the curve upward and to the right. Even if the shift is out of savings deposits, it will still increase the demand for reserves because of the higher reserve requirement on demand deposits. The shift in demand for reserves would tend to raise the rate of interest, but this effect can be forestalled by an increase in reserves through open market operations. As the central bank monetizes securities, interest rates fall and reserves rise until equilibrium is restored at the former level. There is thus no reason to believe that the existence of deposit interest necessarily raises interest rates, if the monetary authorities take appropriate offsetting action.

In addition to the shift in the demand curve for reserves and currency, the shape of the curve will also change as a result of deposit interest, but the resulting shape is not easily predicted. There are forces working both to increase and

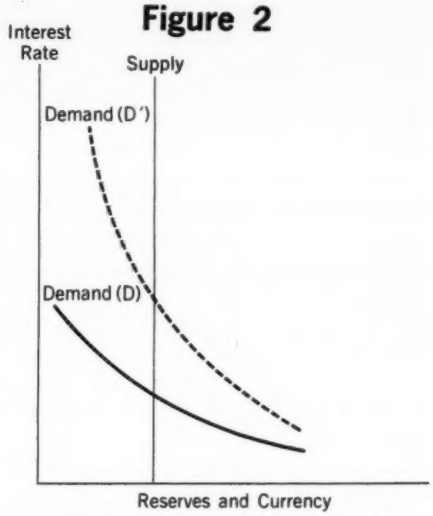
[7] *The General Theory of Employment, Interest, and Money*, New York: Harcourt, Brace and Co., 1936, p. 167 n.

to decrease the elasticity of the curve. Let us assume that demand deposit rates are sensitive to market rates of interest. Deposit interest could then increase the elasticity of reserve and currency demand because demand deposits become a preferred substitute for currency as interest rates rise. The public is more readily induced to accept a currency substitute with higher rates, allowing a more intensive use of reserves and currency.

Another way in which elasticity might rise is through bank demand for excess reserves. The demand for reserves is derived from the demand for deposits, but the reserve demand is not a constant proportion of deposit demand. This is because banks may have a desired level of excess reserves, which is a function of interest rates. At lower interest rates, the demand for excess reserves is possibly higher than when interest rates are relatively high. Thus banks have their own liquidity preference.[8] Will the banks' demand for excess reserves be more sensitive to interest rates with demand deposit interest than without it? Possibly so, since it means they are faced with uncertainty about future interest cost as well as future interest return. Increased elasticity might also occur if there were some systematic tendency for rising market rates to result in an increased spread between interest rates paid and interest earned on assets. But this is obviously more likely to occur with demand deposit interest constant at zero than if it is allowed to rise. It is therefore doubtful that bank behavior would impart increased elasticity to the demand curve for reserves and currency.

The factor which would tend to diminish the elasticity of the demand curve for reserves and currency is the fact that

Figure 2



other assets would become less able to compete with demand deposits. As interest rates rise, savings deposits and other assets can less easily economize on the use of reserves because demand deposits can remain attractive. The public is more inclined to stay in demand deposits with their higher reserve requirement, and the derived demand for reserves is not as sensitive to a rise in interest rates as it otherwise would be.

Our knowledge of the interest sensitivity of various assets does not allow for a conclusive answer to the question which of the above forces would dominate in determining the elasticity of the demand curve. My own opinion is that the demand curve for reserves and currency would become less elastic with the establishment of demand deposit interest because of the reduced incentive of the public to shift from demand deposits to other assets as interest rates rise. This is shown by the dotted line in Figure 2. The demand curve is shown to shift and to become less elastic after demand deposit interest is allowed.

If the above supposition is correct, it implies greater interest rate variation as a result of demand deposit interest, assuming the central bank takes no action to stabilize rates. If, for instance, the Fed-

[8] See A. J. Meigs, *Free Reserves and the Money Supply*, Chicago: University of Chicago Press, 1962; William G. Dewald, "Free Reserves, Total Reserves, and Monetary Control," *Journal of Political Economy*, LXXI, April 1963, 141-153.

eral Reserve adopted a policy of fixed growth in bank reserves and currency, greater fluctuations in market rates of interest could be expected if deposit interest were allowed than if it were prohibited.

The assumption that deposit interest would reduce elasticity of reserve and currency demand is related to the proposition that demand deposit interest would reduce fluctuations in the velocity of money (defined as demand deposits and currency). Under this interpretation, the combination of varying rates on other assets and zero interest on demand deposits causes the public to attempt to shift in and out of demand deposits, resulting in velocity fluctuations. A movement in velocity, however, requires a change in either national income or the money stock. It is hard to see how an attempted shift among financial assets necessarily causes either of these to change. It would be more nearly correct to say that the absence of deposit interest allows the activation of deposits to take place with a smaller change in interest rates on other assets than would otherwise take place. Suppose there is a rise in national income. With the money stock the same, this is necessarily a rise in velocity. The question is, what rise in interest rates will this cause. The rise will be small if the money demand curve is elastic; it will be larger if the curve is inelastic. The resulting interest rates would then likely affect income (and velocity) in subsequent periods, but the ability to mobilize deposits cannot be assumed to be the immediate cause of a change in velocity.[9]

The tendency for greater interest variations under deposit interest rests on the assumption of a less elastic demand curve. As shocks in the economy, such as a rise in income, tend to shift the curve in either direction, the interest rate response will be greater than with an elastic curve. The central bank, however, may change the supply to offset the change in demand so that interest rates are maintained at the former level. In other words, the greater variation need not take place unless desired by the central bank. Furthermore, the less elastic demand curve increases the power of the central bank to alter interest rates, since it causes a greater interest rate response to a given change in supply.[10]

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[9] Warren Smith has stated that deposit interest ". . . would probably reduce the propensity for the velocity of deposits to increase when a restrictive policy was applied, since the banks would be able to raise interest rates on deposits making them more attractive and weakening the tendency for rising interest rates on other claims to induce shifts of deposits into the hands of persons having a high propensity to spend." See, "The Instruments of General Monetary Control," *The National Banking Review*, 1, September 1963, p. 67. This would seem to imply that with deposit interest, the fall in the money stock would cause a fall in national income in the same period. In my formulation the fall in the money stock would cause a greater rise in interest rates than would occur in the absence of deposit interest. Velocity in the period observed is not thereby necessarily affected by the existence of deposit interest.

Warburton (*op. cit.*) has challenged the velocity argument on the grounds that cyclical movements in velocity were no greater after the interest prohibition than before. It seems to me that the complex way in which deposit shifts affect velocity through interest rates—if they affect it at all—and the many variables involved in the two periods would make it almost impossible to draw such an historical comparison.

[10] This analysis would seem to answer doubts expressed by Smith (*op. cit.*, p. 68) concerning a proposal by Tobin ("Towards Improving the Efficiency of the Monetary Mechanism," *op. cit.*) to remove the interest prohibition and provide for Federal Reserve payment of interest to banks on their excess reserves. Smith said, "Perhaps it would be possible to bring the forces of monetary policy to bear more rapidly by means of the Tobin proposal but this is by no means obvious. If the proposal merely provides another way of doing what is already possible, it hardly seems worthwhile."

The mere allowance of deposit interest does not necessarily mean that it would be paid, but there are reasons why payment might be expected. It is possible that the ban has resulted in monopoly profits for banks, and reduction of these profits would provide the source for deposit payment. If banks are not profit maximizers, the ban may have allowed them to hold safer assets. In this case, movement to higher earning assets could provide the source for deposit interest payment. The larger volume of operations resulting from the increased attractiveness of demand deposits might provide increasing returns to scale.[11] Finally, in some cases, explicit interest would merely replace costs now associated with implicit interest.

The analysis of interest rates in this paper reveals nothing about the relation of deposit rates and other rates of interest. It assumes that all market rates, including deposit rates, tend to move together. If deposit rates do not respond to market rates, then the effects of deposit interest on the reserve and currency demand curve will be less pronounced than assumed here.[12]

Once an average of market rates is established, the relationship between the deposit rate and other rates becomes a yield curve problem, and like the yield curve could be expected to show a great deal of variation. Just as 30-day bills differ from 30-year bonds, demand deposits differ from 30-day bills. If expectations of future interest rates explain the yield curve, they also explain the relation between deposit rates and rates of longer maturity. Market imperfections may make the deposit rate sticky, in the same way that consumer credit and other rates are now sticky.

In summary, the payment of demand deposit interest would be expected to increase the demand for bank reserves, which is derived from the demand for demand and time deposits. At the same time, a sensitive deposit rate would be expected to decrease the interest elasticity of demand for reserves, since fluctuating deposit rates would counteract tendencies of the public to attempt to move in and out of deposits. The result would be higher and more fluctuating market rates of interest unless the central bank increased reserves and varied them for stabilizing purposes. The central bank would have greater control over interest rates, since it could achieve a given interest rate effect with a smaller change in reserves than at present.

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[11] On this point see J. A. Galbraith, *The Economics of Banking Operations: A Canadian Study*, Montreal: McGill University Press, 1963, p. 148.

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[12] There is some evidence of stickiness in the period when demand deposit interest was paid. The table below shows that interest received by national banks varied more than interest paid. Data show interest received and interest paid per $100 of loans and investments.

Year	Interest Received	Interest Paid	Difference
1918	$5.47	$1.93	$3.54
1919	5.41	2.01	3.40
1920	6.09	2.23	3.86
1921	7.30	2.71	4.59
1922	6.04	2.16	3.88
1923	5.56	2.04	3.52
1924	5.64	2.13	3.51
1925	5.30	2.11	3.19
1926	5.43	2.11	3.32
1927	5.24	2.09	3.15
1928	5.17	2.11	3.06
1929	5.76	2.28	3.48
1930	5.63	2.23	3.40
1931	5.31	2.15	3.16
1932	5.30	1.97	3.33
1933	4.96	1.75	3.21

Source: Federal Reserve Bulletin, XXIV, February 1938, p. 118.

Appendix: An Alternative Formulation

The analysis of interest rates put forth in this paper can also be drawn in terms of the conventional treatment of liquidity preference as the demand and supply of currency and demand deposits. In this case, deposit interest would affect both the demand and supply, and the role of the central bank would be more obscure. Any increased tendency for the public to shift out of currency into demand deposits as a result of the payment of interest on demand deposits would cause no change with respect to the demand curve, since both assets are included in the schedule, and since the rise in demand for one is offset by the fall in demand for the other. The curve would become less elastic, however, as a result of the public's decreased tendency to shift out of demand deposits as they are made more attractive with interest. We would also expect an upward shift in the curve for the same reason.

The supply curve of currency and demand deposits gives somewhat more difficulty. A given stock of reserves and currency from the central bank does not determine the money supply, when the definition of money supply includes demand deposits. If we assume a constant spread between demand deposit interest and market interest rates, then the banks have an incentive to create the maximum deposits, though at lower interest rates they may prefer excess reserves because of uncertainty. The actual supply of money at a given level of reserves and currency will depend upon the public's shifts among currency (equivalent to 100 percent reserves), demand deposits (high reserve requirements), time deposits (low reserve requirements), and other assets (no reserve requirements). The difficulties of this approach suggest that we then have to try to remove the money supply from economic variables and assume that the central bank will attempt to determine the money stock exogenously. The central bank tries to make allowances for banks' desired excess reserves and for the public's shifts in preferences. This approach implies no elasticity for the money supply, since any elasticity which would tend to emerge causes the central bank to compensate for it by more or less reserves. Assuming this compensation is possible, then the result comes out to be the same as in the previous analysis of reserves and currency: The less elastic demand curve increases the power of the central bank.

If the results of both analyses are the same, it is concluded that the complex attempt to aim at a demand deposit level is unnecessary. The difficulties of achieving the target may make monetary policy destabilizing. A far simpler policy is to aim at the amount of "outside money" which the government creates for the public. Reserve requirements, imposed only to give a precise demand deposit solution, become no longer necessary.[13]

Monetary policy could be limited to the determination of reserves and currency, without the additional complication of determining the use of reserves in creating a particular asset. Even if reserve requirements are maintained, it is possible for monetary policy to have this orientation as its proximate goal in seeking to affect interest rates and the economy. Some complications are introduced, however, by the failure of reserve requirements to be uniform for all banks. In this case movements of reserves from one bank to another are not neutral in their effects, and attempts to restore neutrality involve the central bank in open market operations. Even if these operations keep demand deposits unchanged, they still alter the private sector's monetary claims on the government. "Neutrality" is indeed elusive.

[13] See Deane Carson, "Is the Federal Reserve System Really Necessary?" *Journal of Finance*, XIX, December 1964, 652-661.

►R. M. MACINTOSH

Guideline Gamesmanship: A Canadian View

International gamesmanship in balance of payments matters requires a country to put on a poor mouth, as the saying goes. It is important to convince the rest of the world that one's dire straits prevent the adoption of more liberal policies which one would, of course, otherwise follow.

Thus, countries with recurrent deficits on current account—such as Canada, Japan, Norway, and Denmark—always follow the basic rule of defining their deficits in current account terms, rather than in terms of the overall change from period to period in official exchange reserves or in net liquid liabilities to foreigners.

Countries with strong or recurrent surpluses on current account define their "deficits" in terms which take into consideration not only the current account, but the capital account as well, and preferably the most dismal view of the latter. The United States, which has a huge surplus on current account with the rest of the world, takes care to define its deficit in terms of net changes in liquid liabilities, including those held by the private nonresident sector as well as those held by official institutions abroad. Despite the fact that a special committee [1] appointed by the U.S. President dealt exhaustively with the appropriate defini-

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[1] *The Balance of Payments Statistics of the United States,* Report of the (Bernstein) Review Committee, April 1965.

Table 1

United States Balance of Payments Deficit, 1959-65 (Millions of U.S. dollars)

	Liquidity Basis*	Official Reserve Basis
1959	−3,743	−2,283
1960	−3,881	−3,592
1961	−2,370	−1,287
1962	−2,203	−2,241
1963	−2,670	−1,977
1964	−2,798	−1,342
1965	−1,301	−1,299
Total	−18,966	−14,021

Source: Council of Economic Advisers, Economic Indicators, April 1966.

* This definition differs from the official reserves basis shown in column 2, primarily because of the inclusion of liquid liabilities to nonofficial foreign holders of reserves.

Table 2

Balance of Payments "Deficits" of some Leading Trading Countries, 1965* (Millions of U.S. dollars)†

United States	−1,301 a
Canada	−1,136 b
United Kingdom	− 991 a
West Germany	−1,379 c
Austria	− 80 a
Denmark	− 145 b
Norway	− 102 b
Netherlands	− 135 ad
Surplus Countries	
Japan	+ 745 b
France	+1,279 a
Italy	+ 2 a
Belgium	+ 156 a

* Deficits as conventionally defined in the countries concerned.

† Converted to U.S. dollars at mid-rates of 1965: (a) current and capital; (b) current; (c) "basic" balance, current and long-term capital; (d) 9 months only.

tion of the U.S. balance of payments, U.S. Government officials and practically all other official and private observers continue to use a concept which is inaccurate and misleading in its implications for policy.

While the dollar difference between the concept of the U.S. deficit proposed by the Bernstein Committee and the one still generally used in the United States was negligible in 1965, the cumulative difference in the past few years is a factor in the exaggerated view commonly held in the United States of its so-called balance of payments problems. Calculations of the payments deficit according to both measurements are shown in Table 1.

It is contended that the size of the cumulative deficits—a difference of $5 billion in 7 years—is itself a factor tending to increase the deficit; there is a feedback effect on U.S. nonresidents, causing them to hold fewer dollars and more gold, in the (false) expectation of weakness in the dollar.

It is possible to show that the sum of the balance of payments deficits of the major trading countries do not add up to near-zero (after taking account of leakages to the rest of the world). This is because the various national definitions of "deficit" are, of course, far from mutually consistent. Thus, as shown in Table 2, in 1965 the "deficits" of eight major trading countries add up to an aggregate which cannot be found in the aggregate surpluses of other countries.

This would be no more than a statistical curiosity were it not for the fact that hard national policies are based on concepts and definitions which, for political reasons, are meant to have emotional connotations.

The United States policy to deal with its self-defined deficit has leaned towards suasion rather than more conventional fiscal and monetary policies. The rapidly developing art of guideline policy was not a complete novelty when introduced in February 1965, but it has found its most complete expression in the balance of payments sphere.

The guidelines of February 1965 were aimed primarily at the objective of reducing net outflows of private capital from the United States, in order to reduce and, if possible, eliminate the deficit as conventionally measured in the U.S. Several favorable and unfavorable aspects of the guidelines are noteworthy here.

Firstly, the guideline program is a rela-

tively moderate and careful approach to the U.S. balance of payments situation, according to the assumption on which U.S. policy is based. It attempts to alter the net U.S. position in such a way that it does not shake the international monetary system in general, nor threaten the framework of international trade in goods and services.

Secondly, it is selective in its approach, in that it is directed at private capital flows, especially to Europe, and attempts to shield the underdeveloped countries from the impact of its restrictions on such private capital flows. It also provides for certain exemptions in the case of countries with special problems, especially Canada, the U.K. and Japan.

Thirdly, it is temporary in nature, and therefore does not introduce a structure of economic controls which may later become very difficult to dismantle.

Fourthly, it works—at least in the weird world of international financial statistics. The guideline program has been a major factor in the move towards correcting the so-called U.S. balance of payments deficit. This, in turn, may help to avert other measures which would have even more serious effects on the international payments system.

Criticism of the guidelines program centers on the notion that it is a niggling and bureaucratic approach to a problem which ought to be dealt with in a very different way. It tends to exacerbate relations between the United States and her chief associates in the international capital market (and indeed has already produced countermeasures in Canada which are equally niggling and bureaucratic), and therefore opens up a Pandora's box of troubles for the whole private international system of trade and capital movements. The response of the Canadian Government to the guidelines program was first, to appeal hastily to Washington for redress, and secondly, to do what it could to offset the effects of the guidelines by moderate countervailing guidelines in Canada. There is, of course, no question of an open contest to impose even more stringent countermeasures; in any such economic contest Canada would be somewhat overmatched. In any event, American economic policy has never been, and is not now, aimed at imposing an imperial policy on Canada. Rather, the effects of U.S. guidelines (and of most other American economic policies) are inadvertent rather than intentional. They arise generally from the fact that U.S. policies are made in a global context, often involving widely ramifying political and military considerations which have little or nothing to do with Canada.

The analogy is that of the side effects of drugs; the intent may be absent, but the effects are often real. Moreover, when Canada seeks relief in Washington from unintended injuries, her representatives appear to some Canadian voters to be in a vassal-like position, and this in itself leads to unrealistic demands for autonomous Canadian economic policies.

One of the chief difficulties lies in defining what the U.S. balance of payments problem really is. It is unfortunate that the conventional wisdom of the day has conveyed the image of a payments *deficit*. Deficits connote weakness, failure, overspending, the need for retrenchment. Correcting a balance of payments deficit primarily involves promoting exports and discouraging imports through a fundamental improvement in productivity. This is approximately the position of the United Kingdom. But the problems of the United States are fundamentally different. They are problems of strength, not of weakness. The U.S. runs a high and persistent balance of payments surplus on current account, and this is the best general measure of its economic effi-

ciency and productivity.[2] Moreover, the U.S. has contained inflation more successfully than any other industrial nation in the past decade, and has no reason to apologize for its record in domestic stabilization. The net drain on the U.S. reserves of gold has arisen from the fact that, in addition to a heavy load of military and economic aid, the United States has *voluntarily* exported, through its private sector, huge amounts of development capital. The outflow of capital is a product of American financial technology as much as it is of American industrial technology. The guideline program seeks to curb this outflow of private capital, thereby bringing U.S. policy into conformity with nationalist sentiment in Europe, Canada, and elsewhere, which seeks to discourage the inflow of U.S. corporate investment, at least in direct forms.

The U.S. problem is a liquidity or banking problem, not one of the balance of payments. Some countries, notably in the Common Market, have failed to respond to their surpluses of U.S. dollars and gold by making these available either through lowering their tariffs, or through lending them in the private capital market or as aid to the developing countries. What could be more ludicrous than the spectacle of the Common Market countries, with vast hoards of gold and U.S. dollars, not having the financial machinery to finance in their own currencies oil pipelines from the Mediterranean into the heart of Europe? Instead, the funds are borrowed in U.S. dollars, whereupon the central banks of France and Switzerland convert the dollars acquired by their residents into gold, and then urge the United States to correct its gold outflow!

The fundamental liquidity problem of the United States lies in the uncharacteristically meek acceptance of the European view that the value of the U.S. dollar depends on gold. The opposite is in fact the case. The value of gold depends on the ultimate strength of the U.S. economy, on its political stability, and on the willingness of the U.S. to pay $35 an ounce for it. If the U.S. were to cease buying gold, it is questionable whether *any* group of central banks would be strong enough to guarantee its price. If this doubt were widely shared, there would be a rush from both public and private gold hoards into U.S. dollars, and the cherished but dangerous illusion that the U.S. dollar is weak would be dispelled. Certainly the Government of Canada would be very ill-advised to hold a large stock of gold under circumstances in which European central banks, but not the U.S. Treasury, maintained a bid for gold. Canada would presumably convert all her gold into dollars as fast as she could. She would then earn the U.S. Treasury bill rate instead of zero, and assist her European friends in acquiring a still larger hoard of metal to supplement their acquisitions from the U.S.S.R. and South Africa.

If the relationship between gold and the U.S. dollar were put in its proper perspective—and this can only be done unilaterally by the United States—the groundwork would be laid for effective international monetary co-operation. The current international discussions for supplementing world monetary reserves could proceed in the light of a realistic appreciation of the unique key-currency status of the U.S. dollar, with its stable economy and flexible private market. These views are shared by a number of

[2] This would still be the case after allowing for captive export markets which are tied to aid programs.

serious and respectable American economists.[3]

Because it is based on a fundamental misconception of the U.S. balance of payments situation, the guideline program is ill-conceived. Moreover, it tends to escalate, since any element of weakness elsewhere in the U.S. balance of payments, such as a decline in the merchandise surplus, produces a further turn of the screw on guidelines.

In December 1965, the U.S. Treasury published its revised guidelines for 1966. As Mr. Mitchell Sharp, the Canadian Minister of Finance, observed in the House of Commons, there were two new features of the guidelines which promised to create serious difficulties for Canada.[4] The first was the percentage limitation on the foreign long-term investments of nonbank financial corporations. The Canadian Government successfully appealed to the U.S. Administration to exempt new Canadian long-term portfolio issues from this restriction, subject to Canada's adhering to her commitment, given in July 1963 when exemption from the interest equalization tax was obtained, not to increase her exchange reserves.

The second new feature was the inclusion of Canada in the restrictions on direct capital investment abroad by about 900 to 1,000 U.S. nonfinancial corporations. Canada also sought exemption from this provision, and the U.S. authorities, at a joint U.S.-Canada cabinet committee meeting in Washington, "made clear that the U.S. Government was not requesting U.S. corporations to induce their Canadian subsidiaries to act in any ways that differed from their normal business practices as regards the repatriation of earnings, purchasing and sales policies, or their other financial and commercial activities."[5]

In effect this statement means that U.S. corporations are not expected to force their Canadian subsidiaries to carry out the intent of the more rigorous guidelines of 1966. No formal amendment to this effect has been made, presumably because of the difficulty of issuing instructions to U.S. parent corporations where their diverse international operations are commingled. Moreover, there might appear to be a degree of discrimination to the disadvantage of those corporations with mainly non-Canadian subsidiaries.

Although an exemption from the U.S. guidelines on direct foreign investment had been achieved at the Washington meeting, the Canadian Government decided to issue its own set of guidelines "for what constitutes good corporate behavior" of Canadian subsidiaries of foreign companies. A letter was issued by the Minister of Trade and Commerce on March 31, setting out 12 "guiding principles."[6] These guidelines, though general and nonquantitative in nature, went beyond the simple question of confirming the agreement reached in Washington on March 5. First, they were addressed to all subsidiaries, including those of non-U.S. parents. Secondly, they were accompanied by a request to the large and medium companies to co-operate in supplying the Canadian Government with certain financial and operating data on a confidential basis. Since many of the largest subsidiaries in Canada are

[3] For a recent summary of such views, see Emile Despres, Charles P. Kindleberger and Walter S. Salant, "The Dollar and World Liquidity," *The Economist*, Feb. 5, 1965, pp. 526-529.

[4] Hon. Mitchell Sharp, *Statement on Canadian-American Financial Relations, Jan. 27, 1966*, Ottawa: Queen's Printer, 1966.

[5] Joint U.S.-Canadian Committee on Trade and Economic Affairs Communique, Washington, D.C., March 5, 1966.

[6] House of Commons, *Debates*, March 31, 1966, Ottawa: Queen's Printer, pp. 3643, 3713-3714.

TABLE 3

Exports of U.S. Manufacturing Companies to Their Foreign Affiliates, 1964
(Millions of U.S. dollars)

	To Canada	To Europe	To Latin America	To all others
Manufactured Exports from U.S.	3,471	4,752	3,086	4,117
Exports to Foreign Affiliates	2,123	1,522	1,108	686
Exports to Affiliates as Percent of Total	61.2	32.0	35.9	16.7

Source: U.S. Survey of Current Business, December 1965, Washington, D.C.: Government Printing Office, 1965, p. 16.

wholly owned (such as General Motors), they do not publish financial statements. This had been a sensitive subject in Canada before the guideline issue arose, but it became somewhat more politically alive as a result of the U.S. guidelines because it raised the sovereignty issue in a more tangible form.

It was not the Canadian Government which brought the sovereignty issue to the fore, but the Minister of Health in the Province of Quebec, Hon. Eric Kierans. In a speech on February 1, he argued that the guidelines were an invasion of Canadian sovereignty to the extent that they impinged on the behavior of Canadian subsidiaries in matters of investment policy, purchasing habits, and so forth. The Kierans speech created considerable uneasiness in Canada, especially in the allegation that many Canadian subsidiaries had never been operated efficiently in an increasingly competitive environment, but merely had provided a convenient marginal market for their foreign parents.

On March 2, Dr. Andrew Brimmer, a newly appointed member of the Federal Reserve Board, spoke in Toronto. He asserted that it was not the intention of the U.S. authorities to force Canadian subsidiaries to depart from their normal business practices, including the retention of profits in Canada for expansion of their Canadian operations. His views were echoed in the formal communique issued a few days later in Washington, following the joint cabinet meeting already referred to.

Mr. Kierans' evidence of the uneconomic behavior of some Canadian subsidiaries of U.S. parents was based mainly on two types of data. First, the profit margins of manufacturing industry in Canada had declined sharply in the fifties, even though capital investment had been rising rapidly. Secondly, the ratio of imports of Canadian subsidiaries from their U.S. parents was much higher than that of comparable subsidiaries in Europe and elsewhere, (see Table 3).

As Kierans put it:

> The purposes of investment in subsidiaries are not simply to earn a profit. In the parent-affiliate relationship, a profit on intercompany transactions may be taken at either end but is normally taken by the parent. Thus a subsidiary could lose money and still make a net contribution to the parent company's income by the profit on purchases of raw materials and component parts from the parent, by payment of royalties and fees for management, advertising and research services.[7]

This subject has been investigated before, with little concrete evidence of uneconomic purchasing practices.[8] How-

[7] Eric W. Kierans, *The Economic Effects of the Guidelines*, Address to the Toronto Society of Financial Analysts, Toronto, Canada, February 1, 1966.

[8] John Lindeman and Donald Armstrong, *Policies and Practises of United States Subsidiaries in Canada*, Canadian-American Committee, 1960, pp. 52-55.

ever, most existing analysis is based on interviews with personnel of the various companies rather than statistics. The security analyst is led to wonder whether some Canadian subsidiaries are not mismanaged, protected wards of the Canadian tariff structure. The high level of imports cited in Table 3, however, is not convincing evidence of captive import policies. It is not surprising that imports from U.S. parents into Canada would be high, considering the advantages of transport and communications, the convenience of American engineering specifications, and other cost factors. But when all this is said, there is still enough qualitative evidence to suggest that some proportion of Canadian imports is influenced by the American orientation of personnel, rather than by price and quality considerations.

The official position of the Canadian Government on the guidelines is not, however, centered around the question of corporate behavior. It is primarily focused on the proposition that the United States cannot hope to improve its balance of payments position at the expense of Canada. Since Canada runs a very substantial current account deficit with the U.S. (approaching the huge figure of $2 billion in 1965), there must be some offsetting inflow. To some extent, this inflow arises from Canada's net current account surplus with the rest of the world, but a large portion of it is made up by Canadian borrowing in the U.S. capital market. If such borrowing is reduced or impaired, Canada has absolutely no policy alternative except to cut her current account deficit with the U.S. by restrictive measures on trade and invisibles, assuming constant exchange reserves.

Thus, it is quite clear that there is an unanswerable case for excluding from the guidelines a deficit country such as Canada, since the main thrust of the

Table 4

Comparative Statistics of Canadian Balance of Payments with United States, January-September 1965
(Millions of Canadian dollars)

	Canadian	U.S. figures
Canadian merchandise exports	3,607	3,777
Canadian merchandise imports	−4,350	−4,227
Trade balance	−743	−450
Canadian services, net balance	−673	−481
Current account balance	−1,416	−931
Long-term capital movements	609	878
Short-term capital	−649	−737
Net current and capital account	−1,456	−790

policy was really aimed at those surplus countries that have not been wholly cooperative in international monetary affairs.

Unfortunately, the Canadian Government may have left itself open to criticism in Washington by a somewhat less than strict observance of its agreement of July 1963 not to increase its exchange reserves, in return for the exemption from the interest equalization tax. Canadian reserves had been allowed to rise, and there was, perhaps, insufficient appreciation in Ottawa of U.S. sensitivity on this point. But then the original agreement on exchange reserves had not been precise, especially as it failed to spell out whether or not Canada's net position at the I.M.F. was included. It was not until December 1965, when Canada sought exemption from the 1966 guidelines, that the agreed maximum for Canadian exchange reserves was explicitly defined at $2,600 million, including the net I.M.F. position.

The other reason for having exceeded the agreed level of reserves was that the Canadian Government anticipated a

rapid deterioration in reserves in view of the intractable current account deficit, and considered the high level of reserves to be very temporary. As it happened, several large wheat trade agreements unexpectedly helped to ease the situation.

It is not so difficult to appreciate the difference in outlook between Ottawa and Washington on the level of Canadian exchange reserves when it is realized that U.S. and Canadian balance of payment statistics bear little resemblance to each other even when describing ostensibly identical things. This disparity emerged clearly at the Washington meetings on March 4-5. Table 4 sets out some of the more astonishing differences for the first nine months of 1965. These differences run through virtually every major category and are found in the statistics for earlier years. It is small wonder that there is some degree of misunderstanding between the two governments. Although an intergovernmental statistical committee exists to define terms and settle differences, it is said to be extremely difficult to pinpoint the sources of differences. Clearly, balance of payments problems are a by-product of the age of statistics! In the golden age before "good" statistics were available, governments were not the victims of imaginary problems. The Parkinsonian formulation of this proposition would read: "Economic problems expand in direct proportion to the supply of statistics."

Guidelines, like rationing, require an ever-widening network of controls. The recent market in "Euro-dollar" long-term bond issues is a good illustration of this fact. A number of large U.S. corporations have sought to borrow in Europe, in U.S. dollar-denominated issues, in order to conform to guideline policies. These issues quickly appeared attractive to some Canadian investment institutions, which, as non-U.S. residents, were technically eligible to buy them. In late 1965 and early 1966, a considerable flow of Canadian long-term funds entered this market, possibly $50 to $75 million in 2 or 3 months. On March 18, 1966, the Canadian Government issued a request to Canadian financial institutions to desist from buying such securities.[9] This request was widely misinterpreted as a defensive action for the Canadian balance of payments. In reality, however, this move was necessary to protect Canada's position in Washington; the U.S. could justifiably argue that Canadian access to the U.S. market was being abused when Canadian institutions leaked their funds into Europe, thus forcing more Canadian borrowers into New York.

More recently, the United Kingdom's budget has introduced guideline controls on British investments in the sterling area. Thus, controls breed controls. The ultimate outcome of beggar-my-neighbor restraints on capital investment will tend to have the same effects as similar trade policies.

The guideline program tends to play into the hands of those already strong nationalist forces that would restrict U.S. direct investment abroad per se. The great U.S. multinational corporations are a major factor in the spread of efficient modern American technology to both the developed and developing countries. A program which tends to curb the free market operations of these corporations strikes at the roots of an integrated western industrial society led by American technology. The explanation for this paradox lies in the fact that the U.S. balance of payments program is based on a widespread misapprehension of the whole question of liquidity; it puts the United States in an apparent posture of weakness, when, in fact, its real posture is one of profound strength.

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[9] House of Commons, *Debates*, March 22, 1966, Ottawa: Queen's Printer, p. 3037.

►STANLEY SILVERBERG

Bank Trust Investments in 1965

At the end of 1965, national banks had investment responsibility for trust assets of approximately $90 billion, according to data provided by national banks in their 1965 Trust Department Annual Reports to the Office of the Comptroller of the Currency. Based on these and other data, it is estimated that all commercial banks had investment responsibility for trust assets of approximately $175 billion, of which almost $60 billion represented assets of employee benefit accounts. In addition, it is estimated that commercial banks held investment management accounts in their trust departments of approximately $40 billion. At the end of 1965, 464 commercial banks and trust companies operated more than 1,000 common trust funds with assets of more than $7.5 billion, or about 6.4 percent of bank trust assets, excluding employee benefit accounts. The first section of this article deals with trust data for national banks. These are worked into estimates for all commercial banks in the second section. The final section of this article deals with growth and performance of common trust funds.

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I. *Trust Assets of National Banks*

In their 1965 Trust Department Annual Reports, 1,571 national banks and 3 nonnational banks in the District of Columbia reported investment responsibility for trust assets of $89.5 billion, including approximately $28.6 billion in employee benefit accounts where banks acted as trustees.

TABLE 1

Assets of Trust Accounts Where National Banks Have Investment Responsibility
(Dollar amounts in millions)

Assets	Amount	Percent of Total
U.S. Government & Agency Securities	$6,861	7.8
State, County, Municipal Securities	5,738	6.6
Other Bonds	11,468	13.1
Common Stock	52,906	60.5
Preferred Stock	1,288	1.5
Mortgages	2,320	2.6
Real Estate	3,110	3.6
Miscellaneous	1,300	1.5
Own Bank Time Deposits	936	1.1
Other Bank Time Deposits	358	.4
Savings & Loan Shares	226	.3
Demand Deposits	918	1.0
Not Classified*	2,091	—
Total Assets	89,520	100.0

* Includes accounts for which asset distribution was not available, and the $476 million in assets of bank trust departments having investment responsibility for assets of less than $2 million. Percentage distribution was computed exclusive of these assets.

Table 1 lists the distribution of trust assets where national banks exercised investment responsibility. 60.5 percent of these assets were invested in common stock, about 54 percent of the employee benefit accounts and about 63 percent of other accounts. In 1964, national banks reported trust assets of $75.2 billion, 59.1 percent of which were invested in common stock,[1] up from 56.4 percent in 1963. The increase in the *share* of assets invested in common stock between 1963 and 1965 is more than accounted for by security price changes.

Of the apparent $14.3 billion growth in national bank trust assets in 1965, approximately $6 billion reflects changes in bank coverage (principally conversions to national bank status) and changes in reporting definitions employed by national banks. Approximately $3 billion of the asset increase reflects security price appreciation. These figures suggest an inflow of funds into new and existing trust accounts in excess of $5 billion, of which approximately $3 billion can be accounted for by an increase of about 12 percent in employee benefit accounts. This implies an inflow in excess of $2 billion, approximately 4 percent into other trust accounts. While these estimates approximate those made during the previous year, the potential error associated with such a residual estimate is large, and, consequently, such an estimate should be viewed as a rough approximation.[2]

Table 2 lists the number of accounts and assets of various categories of employee benefit accounts where national banks acted as trustee and as agent. In the latter capacity, trust departments have physical possession of the assets and may provide some degree of investment advice, although they do not exercise formal investment responsibility.

[1] Stanley Silverberg "Bank Trust Investments in 1964," *The National Banking Review*, 2, June 1965, pp. 483-484.

[2] *Ibid.* p. 484-485.

TABLE 2

Employee Benefit Accounts of National Banks
(Dollar amounts in millions)

Type of Account	Held as Trustee		Held as Agent	
	Number of Accounts	Amount	Number of Accounts	Amount
Pension Plans	11,088	21,292	744	2,124
Profit Sharing Plans	13,495	4,316	917	1,005
Stock Bonus Plans	54	165	5	1
Thrift Plans	320	2,238	21	117
Others	2,856	513	203	942
Not Classified*	—	44	—	—
Total	28,214	28,568	1,890	4,189

* Consists of Employee Benefit Account assets for trust departments with assets of less than $2 million, data on number of accounts and on agency accounts were not tabulated for these trust departments.

TABLE 3

Trust Department Assets According to Trust Department Size
(Dollar amounts in millions)

Trust Department size	Number of banks	Assets of employee benefit accounts	Other trust assets	Total trust assets
Less than $10	1,110	$179	$2,067	$2,246
10 to 99.9	350	1,418	10,310	11,728
100 to 499.9	88	3,136	17,640	20,776
over 500	26	23,835	30,935	54,770
Total	1,574	28,568	60,952	89,520

Table 3 indicates the distribution of trust assets of national banks according to trust department size. Twenty-six banks each having trust assets in excess of $500 million accounted for more than 60 percent of the national bank total. They accounted for about 83 percent of employee benefit accounts and slightly more than half of the assets of other trust accounts.

National banks with trust assets in excess of $2 million reported having approximately 670,000 trust accounts, including about 80,000 corporate accounts and 385,000 accounts in which they exercised investment responsibility. The average size of these latter accounts, excluding employee benefit accounts, was approximately $175,000. However, the average was almost $300,000 for banks having trust assets in excess of $500 million.

Table 4 lists for each state the number of national banks having trust assets and the assets of employee benefit and other trust accounts. Four states—New York, Pennsylvania, Illinois, and California—account for more than half the trust asset total for national banks.

In addition to accounts where trust departments exercise formal responsibility,

TABLE 4

Trust Assets of National Banks by States
(Dollar amounts in millions)

	Number of banks having accounts	Employee benefit accounts	Other trust accounts	Total trust accounts
United States	1,574	$28,568	$60,952	$89,520
Alabama	27	118	735	853
Alaska	4	4	6	10
Arizona	2	21	430	451
Arkansas	26	12	224	236
California	17	1,804	5,831	7,635
Colorado	27	95	1,161	1,256
Connecticut	13	242	1,474	1,716
Delaware	1	*	*	*
District of Columbia†	6	205	1,019	1,224
Florida	65	196	2,052	2,248
Georgia	24	153	911	1,064
Idaho	3	9	36	45
Illinois	135	4,774	4,647	9,421
Indiana	88	243	1,752	1,995
Iowa	39	37	328	365
Kansas	37	23	325	348
Kentucky	51	25	254	279
Louisiana	18	64	193	257
Maine	16	21	201	222
Maryland	10	71	469	540
Massachusetts	56	901	2,194	3,095
Michigan	30	2,485	1,591	4,076
Minnesota	19	554	1,396	1,950
Mississippi	18	21	142	163
Missouri	28	581	1,942	2,523
Montana	11	3	43	46
Nebraska	17	57	417	474
Nevada	2	5	118	123
New Hampshire	21	4	120	124
New Jersey	81	106	1,105	1,211
New Mexico	14	8	178	185
New York	82	9,045	8,524	17,569
North Carolina	17	112	561	673
North Dakota	6	6	39	45
Ohio	50	972	3,137	4,109
Oklahoma	34	141	467	608
Oregon	2	128	522	650
Pennsylvania	153	3,726	8,233	11,959
Rhode Island	2	73	288	361
South Carolina	9	63	297	360
South Dakota	9	9	50	59
Tennessee	25	86	1,397	1,483
Texas	129	822	2,962	3,784
Utah	2	49	96	145
Vermont	12	4	36	41
Virginia	54	121	1,277	1,398
Washington	10	201	989	1,190
West Virginia	32	13	250	263
Wisconsin	32	153	501	654
Wyoming	12	2	33	35

* Less than $500,000.
† Includes national and nonnational banks in the District of Columbia.

TABLE 5

Estimated Bank Trust Assets
(Dollar amounts in millions)

Type of Account	National banks	State banks	Total
Employee Benefit Accounts	$28.6	$31.0	$59.6
Other Investment Responsibility Accounts	61.0	54.0	115.0
Advisory Agencies	19.0	21.0	40.0
Total	108.6	106.0	214.6

many trust departments have a substantial volume of investment management accounts.[3] In these accounts, the trust department has physical possession of the financial assets, periodically reviews the assets and makes investment recommendations which must be approved by the principal. In such accounts, trust departments do not exercise formal investment responsibility, although in practice they may actually entail greater investment control or discretion than some personal trusts. Eighty-eight of the largest national bank trust departments were asked to supply data on their investment management or advisory agency accounts. They reported 23,500 of these accounts with assets of approximately $16 billion. This was an average of $680,000 per account, considerably larger than the average size of personal trusts, even for the largest banks. On the basis of this sample, it is estimated that national banks held advisory agency accounts with assets of approximately $19 billion at the end of 1965.

[3] For a definition of the investment responsibility concept employed by the Comptroller's Office, see *Ibid.*, p. 485. In some instances the investment responsibility concept employed by the Comptroller's Office has conflicted with definitions used by banks for internal control purposes. To eliminate such problems and to obtain more meaningful trust data, the Trust Department Annual Report beginning in 1966 will require national banks to provide a detailed asset breakdown for accounts falling under the following three capacities: employee benefit trusts; other trust and estates; and agency or investment management accounts.

II. *Trust Assets of All Commercial Banks*

Table 5 includes estimates of the trust assets over which state banks exercise investment responsibility and an estimate of investment management assets of state banks. The bases for these estimates include trust department income figures, a sample of examination reports for large state member banks, and data from the New York State Banking Department on employee benefit accounts for which New York banks act as trustees.[4]

A comparison with a table similar to Table 5, published last year, would suggest that national bank trust department growth has been much greater than that of state-chartered banks. However, most of this relative gain in national bank trust departments can be explained by conversions from state to national banks.

III. *Growth and Performance of Common Trust Funds in 1965*

At the end of the 1965 reporting period, 464 banks and trust companies operated 1,016 common trust funds with assets of more than $7.5 billion. This represented an increase of 232 funds and $1.7 billion (almost 30 percent) over the figures reported for 1964.[5] Table 6 shows the

[4] For a discussion of the bases for estimating trust assets of state banks, see *Ibid.*, pp. 488-491.

[5] Data are collected for the last valuation date during the year, generally the final day in

TABLE 6

Common Trust Fund Growth

Year	Number of banks	Number of funds	Number of account participations	Total Assets (Millions of dollars)	Average fund size (Thousands of dollars)	Average account participation (Thousands of dollars)
1955	174	222	87,000	1,868.7	8,417.6	21.5
1960	327	421	126,000	2,812.6	6,680.8	22.3
1962	343	564	165,000	3,577.7	6,343.4	21.7
1963	391	693	191,300	4,539.8	6,550.9	23.7
1964	418	784	227,500	5,819.7	7,423.1	25.6
1965	464	1,016	271,200	7,529.1	7,410.5	27.8

Source:
Figures for 1955, 1960, and 1962 are from the **Federal Reserve Bulletin,** June 1963, May 1961, and May 1957. Total Asset figures are for the last valuation date of the year—generally October 31, November 30 or December 31. Those common trust funds established during the last three months of the calendar year and, thus, not having a valuation date during that year are not included in any of the above figures until the following year. All figures used in subsequent tables will be on the same basis, i.e. as of the last valuation date during the calendar year for each common trust fund.

TABLE 7

Assets Distribution of Common Trust Funds for 1965

	Amount (Millions of dollars)	Percent of total
Cash	71.9	1.0
U.S. Government Securities		
Under one year	77.9	1.0
All other	614.1	8.2
State County Municipal Securities	1,123.3	14.9
Corporate and other Bonds	1,614.5	21.4
Private Placements	272.2	3.6
Mortgages	181.0	2.4
Preferred Stock	217.0	2.9
Common Stock	3,328.6	44.2
Bank and Finance	274.4	3.6
Utilities	672.2	8.9
All other	2,382.0	31.6
Other Assets	285.1	.4
Total Assets	7,529.1	100.0

Source:
These figures were derived from a survey of banks and trust companies operating common trust funds. Data are for the last valuation date in 1965.
U.S. Government securities include the liabilities of various Federal agencies and instrumentalities. Corporate and other bonds include bonds of foreign governments and of the International Bank. Other assets include certificates of deposits, other time deposits, savings and loan shares, and ground leases.

growth in the number of funds, number of account participations and the assets of common trust funds for selected years since 1955.

From the end of 1962 to the end of 1965, the number of common trust funds has increased by 80 percent, the number of account participations has increased by 64 percent, and the assets of funds have increased by 110 percent. Trust de-

October, November or December. Those funds established during the last quarter of the year would not have a valuation date within that calendar year and would not be picked up in this survey until the following year. Thus, yearly reported changes do not measure precise changes within a given calendar year.

TABLE 8

Distribution of Assets by Type of Common Trust Fund for 1965

Asset	Equity	Diversified	Fixed-Income	Tax-Exempt
Cash	0.9	0.6	1.8	0.8
U.S. Government Securities				
Under one year	1.3	1.2	1.3	—
All Other	0.2	12.0	13.5	—
State, County, Municipal Securities	—	0.1	0.9	99.1
Corporate and Other Bonds	0.7	19.8	58.2	—
Private Placements	—	2.3	11.9	—
Mortgages	0.2	1.8	7.2	—
Preferred Stock	0.3	4.5	4.0	—
Common Stock	95.8	57.4	.6	—
Bank and Financial	7.6	4.9	.1	—
Utilities	17.6	12.4	.1	—
All Other	70.6	40.1	.4	—
Other Assets	.6	.2	.6	—
Total Assets	100.0	100.0	100.0	100.0
Total Assets ($ millions)	1,539	3,211	1,664	1,115
Number of Funds	307	324	288	97
Number of Account Participations	64,604	106,569	81,392	18,639
1964				
Total Assets ($ millions)	50,500	103,200	60,600	13,200
Number of Funds	971	3,115	1,038	696
Number of Account Participations	221	297	200	66

Source: Same as Tables 6 and 7.

partments have been investing an increasing share of new and existing trust accounts in common trust funds to take advantage of the combination of asset diversification and low cost investment management. At the end of 1965, approximately 6.4 percent of trust assets where banks exercised investment responsibility, exclusive of employee benefit accounts, were invested in common trust funds. This compares with an estimate of less than 4 percent at the end of 1962.

Table 7 lists the asset composition of common trust funds at the end of 1965 and Table 8 lists the assets, account participations and distribution of common trust funds by type of fund. About 44 percent of the assets of common trust funds were invested in common stock, down from 47 percent in 1964 and 49 percent in 1963. This decline has occurred despite the fact that the market value of equities in common trust funds has increased by about 20 percent between 1963 and 1965 while the market value of fixed return assets has declined.

The decline in the equity share of common trust funds results primarily from the substantial increase in the number and assets of tax-exempt funds. Between 1963 and 1965, the number of tax-exempt funds increased from 41 to 97. Their assets expanded by more than 200 percent, and their share of the assets of common trust fund assets approximately doubled. Tax-exempt funds tend to be concentrated in larger banks, and they tend to be larger (averaging $11.5 million) and

TABLE 9

Common Trust Funds by Size of Bank for 1965

Size of bank (Millions of dollars)	Number of banks	Number of funds	Number of participations	Total assets of funds (Millions of dollars)	Average size of funds (Thousands of dollars)	Average size of participation (Thousands of dollars)
Less than 99.9	209	319	39,730	591.9	1,856	14,898
100 to 499.9	164	368	81,050	1,738.5	4,724	21,450
500 to 999.9	45	152	52,527	1,632.8	10,742	31,085
over 1,000.0	38	155	84,529	3,189.2	20,575	37,729
Trust companies	8	22	10,605	376.9	17,132	35,540

Source: Same as Tables 6 and 7.

to have larger participations (averaging almost $60,000).[6]

Table 9 lists the number of funds, account participations, and fund assets according to bank size. Common trust funds, like trust assets, tend to be concentrated in large banks. An increasing number of smaller and moderate-sized banks have established common trust funds in recent years. However, this expansion has been matched by the proliferation of common trust funds among larger banks and trust departments. At the end of 1965, 83 banks having assets of over $500 million operated 307 common trust funds, an average of almost 4 funds per bank.

Table 10 lists the number of banks operating common trust funds, the number of funds, accounts, and common trust fund assets, by states, for 1964 and 1965. For the most part the distribution of common trust funds according to states follows the distribution of trust assets. Common trust funds had an earlier popularity in the East, notably in Pennsylvania, and there is today a disproportionate concentration in the East, although growth has been especially rapid in recent years in several Midwestern and Western States, especially Illinois, Michigan, and California.

Since the published data available on common trust funds far exceed those available on other trust investments, there is considerable interest in the examination of common trust fund investment behavior with a view toward generalizing about overall trust investment performance. However, the asset composition of common trust funds does differ significantly from that of larger personal trusts, and, hence, any generalizations made should be interpreted with this in mind.

Banks and trust companies submitting reports on common trust funds were asked to submit data on their funds' unit value for the last valuation date in 1965 and 1964 and on the income distribution per share during the intervening 12-month period. For those funds that were in operation long enough to have a valuation date in 1964, percentage appreciation and yield (income distribution divided by 1964 unit value) were computed.

Appropriate data were available for 240 equity funds. Appreciation ranged from a high of 20.9 percent to a low of 1.2 percent. The median appreciation was

[6] The growth of tax-exempt funds was strongly encouraged by the 1963 revision of the Comptroller's Regulation Q, which eliminated the $100,000 ceiling on a single account participation in a common trust fund. See Stanley Silverberg "Growth and Performance of Common Trust Funds in 1964," *The National Banking Review*, 2, June 1965, pp. 364-366.

TABLE 10

Common Trust Funds by States, 1964 and 1965

	Number of banks with common trust funds		Number of common trust funds		Number of account participations		Total assets of funds (Millions of Dollars)	
	1964	1965	1964	1965	1964	1965	1964	1965
Alabama	5	6	6	10	1,373	1,504	15.8	18.1
Alaska	0	0	0	0	0	0	.0	.0
Arizona	5	5	11	11	1,889	2,145	50.8	66.1
Arkansas	3	3	3	4	675	791	7.8	9.6
California	11	11	27	40	17,693	21,923	375.3	511.4
Colorado	11	13	22	25	5,315	5,892	134.7	157.6
Connecticut	10	10	15	20	4,070	4,910	126.1	177.8
Delaware	3	3	4	7	2,200	2,733	85.0	75.2
District of Columbia	4	4	6	7	2,227	2,532	68.5	83.5
Florida	15	17	24	33	2,715	3,327	52.5	70.9
Georgia	6	8	12	19	4,277	4,786	92.1	115.1
Hawaii	3	3	7	7	1,063	1,214	19.6	22.6
Idaho	1	1	1	2	71	214	.7	2.3
Illinois	10	12	26	30	6,832	8,154	274.9	366.7
Indiana	9	11	9	27	1,676	2,967	29.3	80.4
Iowa	2	2	2	4	170	432	1.6	12.2
Kansas	3	3	6	7	375	451	6.2	8.8
Kentucky	6	7	8	9	1,906	2,350	28.8	43.6
Louisiana	1	1	1	1	171	191	2.7	3.4
Maine	6	7	12	16	2,200	2,082	51.3	61.1
Maryland	6	6	14	16	5,843	6,348	132.3	171.3
Massachusetts	19	22	36	43	10,877	11,974	435.3	495.0
Michigan	13	13	26	40	4,901	7,728	96.0	188.8
Minnesota	8	8	20	22	3,902	6,200	69.3	104.5
Mississippi	2	2	2	4	527	686	6.8	11.5
Missouri	9	8	21	25	8,815	9,922	225.2	295.2
Montana	2	2	4	4	426	514	4.9	6.0
Nebraska	3	3	5	5	858	1,097	20.1	25.2
Nevada	1	1	2	3	297	385	5.1	6.6
New Hampshire	4	4	6r	6	297r	312	10.4r	11.1
New Jersey	13	14	25	29	7,052	6,036	87.8	106.1
New Mexico	2	2	3	6	795	1,016	13.5	18.8
New York	23	25	73	81	24,351	26,541	1,152.4	1,414.8
North Carolina	9	10	15	19	6,663	6,573	129.7	144.2
North Dakota	1	3	3	6	255	409	2.2	4.1
Ohio	22	25	43	70	7,300	9,906	207.5	314.1
Oklahoma	4	6	10	16	838	1,086	21.2	27.1
Oregon	4	4	10	12	3,956	4,705	74.2	91.3
Pennsylvania	63	70	105	130	53,114	59,861	1,154.2	1,422.3
Rhode Island	3	3	8	10	1,361	1,681	35.1	42.4
South Carolina	3	3	7	6	1,551	1,752	17.7	21.4
South Dakota	5	5	9	9	529	622	4.4	5.8
Tennessee	9	10	12	14	2,069	2,397	38.4r	46.9
Texas	22	26	30	49	5,114	6,893	107.9	242.8
Utah	3	4	5r	7	1,160r	1,354	9.8r	13.6
Vermont	6	7	9	9	625	6,820	7.2	7.7
Virginia	21	21	37	40	6,751	7,305	140.7	173.4
Washington	5	7	12	17	4,268	5,111	84.9	109.6
West Virginia	7	8	7	9	865	1,178	11.7	15.8
Wisconsin	12	15	23	30	5,080	6,191	88.2	106.3
Wyoming	0	0	0	0	0	0	0	0
Total U.S.	418	464	784	1,016	227,500	271,230	5,819.7	7,529.1

Source: Same as Tables 6 and 7.

r Revised from figure reported in Table 5, "Growth and Performance of Trust Funds," **The National Banking Review**, 2, March 1965, page 368.

6.8 percent compared with approximately an 8.8 appreciation in Standard and Poor's 500 Stock Series during the comparable period. Approximately 25 percent of the equity common trust funds had appreciation in excess of the Standard and Poor averages. These results were similar to those obtained in a similar survey during the two previous years when equity common trust funds also tended to underperform the market averages.[7]

In the case of 153 equity funds, data were available to enable us to compute market appreciation over a 2-year period. The best performance was an appreciation of 36.7 percent, the worst an appreciation of 11.9 percent, and the median was 19.9 percent. This compares with an average gain of 24.3 percent for Standard and Poor's 500 Stock Series over the comparable period.

Common trust fund performance is at a slight handicap compared with market averages, especially during a period of advancing stock prices. As long as common trust funds grow through additions to participating accounts, periods will exist when funds are not 100 percent invested. Also, brokerage charges will reduce performance, and transactions may necessarily be relatively large for a rapidly growing fund. In addition, the conservative character of common trust fund investment may tend to produce less-than-average performance when the stock market is especially strong. A better test of fund performance would include a longer period of time, and one covering market declines as well as advances.

Fixed income funds earned a median yield of 4.40 percent. The highest return was 5.90 percent and the lowest was 3.60 percent, but most funds were clustered around the median with 75 percent of fixed income funds earning between 4.25 percent and 4.55 percent. Highest returns were earned on those funds with a heavy concentration of mortgage investments. Because the majority of outstanding bonds were selling below par during the period covered, the yield computation used tends to understate slightly the yield-to-maturity on existing bond portfolios. Nevertheless, it is apparent that the yields on fixed income funds are consistent with an investment concentration in high quality bonds.

In the case of 61 tax-exempt funds where sufficient data were available for yield computations, the median yield was 3.25 percent. The highest figure was 3.51 percent and the lowest was 2.65 percent. Three-quarters of the funds had returns closely bunched between 3.17 percent and 3.34 percent.

[7] *Ibid.*, pp. 369-370.

►SCOTT E. SEAGER

Leverage and the Cost of Capital

I. *Introduction*

The cost-of-capital theory developed by Modigliani and Miller nearly a decade ago led to two types of controversy. Their colleagues in the fraternity of economic theorists were not loath to question the conclusions of the first article concerning the relationship between leverage and the cost of capital.[1] Moreover, it was immediately obvious that the Modigliani-Miller thesis flew in the face of financial orthodoxy regarding the influence of the firm's capital structure on its cost of capital.[2] But the cost-of-capital controversy has been exacerbated by a lack of empirical knowledge about leverage—i.e., the use of borrowed funds along with the equity funds to meet the total capital needs of the firm.

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[1] F. Modigliani and M. H. Miller, "The Cost of Capital, Corporation Finance, and the Theory of Investment," *American Economic Review*, XLVIII, June 1958, 261-297; F. Modigliani and M. H. Miller, "The Cost of Capital, Corporation Finance, and the Theory of Investment: Reply," *American Economic Review*, XLIX, September 1959, 655-669; David Durand, "The Cost of Capital in an Imperfect Market: A Reply to Modigliani and Miller," *American Economic Review*, XLIX, No. 14, 1959, 646-655; Ezra Solomon, *The Management of Corporate Capital*, University of Chicago, Free Press of Glencoe, Ill., 1959.

[2] See, for example, B. Graham, L. Dodd, and S. Cottle, *Security Analysis*, 4th ed., New York: McGraw-Hill Book Co., 1962, pp. 539-550, one of many statements of the viewpoint of finance specialists.

The historical record of leverage practices should provide an opportunity to test cost-of-capital hypotheses. In particular, historical data can reflect on the adequacy of individual leverage as a substitute for corporate leverage.[3] The tests proposed in this article compare the distributions of leverage ratios for earlier periods with those presently in force.

Corporations operate in a world of uncertainty. Thus, the cost of capital to the firm is not adequately measured by the rate of interest on bonds. The cost of capital to the corporate financial manager is instead the sum of the opportunity cost of retained earnings plus interest and dividends paid on securities. The cost of capital then varies with the market value of a corporation's securities and with the foregone profits that could be realized from the best possible outside employment of its retained earnings. Therefore, conclusions as to an appropriate investment policy for the corporation derived from models that abstract from uncertainty or ignore corporate financial policy are inadequate. Orthodox corporate financial analysts maintain that the choice of financial policy—especially leverage policy—influences the cost of capital to the firm. According to these analysts, there is a range in which the greater the leverage of the firm's capital structure, the lower its capital costs. Corporate finance theory assumes that the investor does not consider that risk increases significantly with leverage, at least over a wide range of corporate borrowing. It follows that as leverage and earnings available to each share of common stock increase, without an offsetting rise in the rate of capitalization of the equity shares, the price per share of common stock will increase, i.e., the cost of capital to the firm will decrease. Of course, there is a limit to the amount of additional risk from levering that investors are willing to accept before they demand additional compensation. At some point, investors consider that their risk is increasing appreciably; the capitalization rate for the equity shares starts to rise and the cost of capital to the firm begins to increase.

Nevertheless, according to finance theory, there remains a considerable range over which leverage ratio can increase and the cost of capital to the firm decrease. In this range, it is cheaper for the firm to secure additional funds by borrowing against its equity base than by issuing additional equities. The acceptance of the advantages of leverage by specialists in finance is apparent from examination of the textbook literature.

Although there is general agreement in financial literature that leverage reduces the cost of capital, there are differences of opinion in assessing the risk of leverage and, as a result, differences of opinion about what constitutes an optimum percentage of debt in the capital structure of any particular firm. The problem is finding the point at which risk from leverage becomes excessive so that the cost of capital begins to increase significantly.

In the Modigliani-Miller model, leverage does not vary the cost of capital for firms in an "equivalent return" class, although the cost of capital may vary between classes.[4] The means by which Modigliani and Miller neutralize the effect of leverage (as a reflection of uncertainty) on the average cost of capital

[3] In the case of individual leverage, the investor buys the unlevered securities of firm *A* by borrowing for his personal account in lieu of levered securities of firm *B* supported by corporate borrowing, both firms being otherwise comparable.

[4] Firms are grouped into homogeneous risk categories. Investors assign the same expectation of an average return to all members of the group. Thus, leaving aside corporate income taxes, the value of the firm is a function of the average return on its assets and the predictability of this return, and is not influenced by leverage.

to the corporation is ingenious. Once the simple case of an unlevered capital structure is replaced by the more realistic levered capital structure, with its prior claims to income and assets in the form of debt contracts, the shares of firms in the equivalent return class are no longer homogeneous. Various proportions of debt for firms in the same class give rise to various probabilities of receiving the average return on the equity shares; now leverage risk must be allowed for. To neutralize the leverage risk, Modigliani and Miller allow individual leverage as a substitute for corporate leverage. Modigliani and Miller assert that individual leverage will insure the equality of the market value of the levered and unlevered firms in equilibrium.

It is supposed that if levered firms were to command a substantial premium in the market over unlevered but otherwise comparable firms, alert investors would profit by buying the relatively undervalued shares of the unlevered firms, introducing into their portfolios whatever degree of leverage they preferred by borrowing for their personal accounts.

Financial orthodoxy holds that the curve representing the average cost of capital to the firm is U-shaped with respect to leverage of the firm.[5] Thus, there is small likelihood of a completely elastic range of the marginal-cost-of-capital schedule. In contrast, Modigliani and Miller are in effect saying that the average-cost-of-capital-to-the-firm curve is horizontal, i.e., it is unaffected by the type of security used to finance the investment. This completely elastic segment of the average-cost-of-capital curve holds for all firms for the relevant range within which the firm's investment decisions are made, although the level of the curve may vary between equivalent return classes.

Usually, the perfectly elastic average-cost-of-capital curve is explained in terms of atomistic borrowers, but in the Modigliani-Miller formulation the perfectly elastic range of the average-cost-of-capital curve is attributed to the operation of individual leverage. That is, if we were to suppose that the average cost of capital to the firm decreases with an increase of leverage by the firm, Modigliani and Miller would contend that any decrease in capital cost brought about by corporate leverage would be offset by the influence of individual leverage. In effect, Modigliani and Miller neutralize the influence of leverage on the average cost of capital to the firm. Thus, for the relevant range of the firm's investment decisions, the marginal cost of capital is equal to the average cost of capital to the firm, and more particularly, the average cost of capital to the firm is independent of the firm's capital structure.[6]

Financial theory ignores the possibility of individual leverage as a substitute for corporate leverage. Thus, financial managers of the firm make all adjustments in the capital structure required by changes in the relative prices of stocks and bonds to restore equilibrium in the market for the firm's securities.

It is here argued that *individual leverage is not a close substitute for corporate leverage, but is in fact a partial substitute.*

The risk to the investor from owning a 50-50 levered stock is less than the risk from owning an unlevered stock on 50 percent margin. This fact becomes evident when we take into consideration the unlimited liability of the individual borrowing for his personal account, and the possibility of margin calls. For the investor, individual leverage is not the risk-return equivalent of corporate leverage.

[5] Throughout the discussion, unless otherwise specified, our use of the term average-cost-of-capital schedule (or curve) describes variations in the average cost of funds to the firm with variations in the leverage of the firm.

[6] Modigliani and Miller, "The Cost of Capital, Corporation Finance and the Theory of Investment," *op. cit.*, p. 268.

In assuming that individual leverage is a close substitute for corporate leverage, Modigliani and Miller also assume there is nothing to prevent the investor from taking the initiative in using individual leverage. Thus, the corporation can offer nothing through leverage that the investor cannot secure for himself by individual leverage.

However, what if the risk-return combination provided the investor by individual leverage is not the same as that of corporate leverage? As earnings to the equity shares of the firm increase, with leverage the capitalization rate need not increase proportionately (as required by the Modigliani-Miller thesis) to offset the increased earnings. Thus, the market values of the levered and unlevered firms per dollar of expected earnings need not reach equality.

The fact that Modigliani and Miller assign to individual leverage the equilibrating role described prompts the inquiry whether individual leverage can perform its role as effectively as Modigliani and Miller claim.

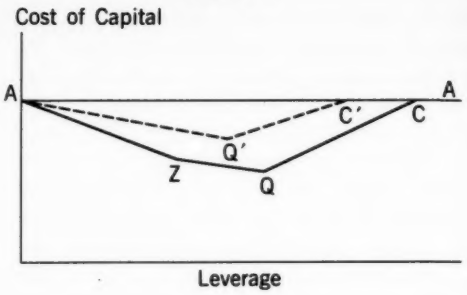
II. *Investor Freedom and the Distribution of Leverage Ratios*

The answer is to be found in an examination of the historical record of leverage, specifically in comparing the distribution of leverage ratios today with those of earlier periods. This comparison can be made meaningful by use of the following proposition: The greater the freedom of investors to engage in individual leverage, the smaller the optimum leverage ratio for the firm. Conversely, *the more difficult it is for investors to use individual leverage*, other things being equal, *the higher the optimum leverage ratio for the same firm*. Figure 1 illustrates the applicability of the proposition.

In Figure 1, AA′ represents the average-cost-of-capital curve of the Modigliani-Miller model. That is, the financial managers of the levered firm cannot lower the average cost of capital because the advantages of corporate leverage to the firm will be appropriated by the investor through use of individual leverage. AZQC represents the financial orthodoxy that it pays to trade on the firm's equity. That is, the average cost of capital can be lowered by appropriate levering because individual levering by the investor is not taken into consideration as an offset to leverage introduced by the financial manager of the firm. A Q′C′ is representative of the position taken in this paper that individual leverage is a partial substitute for corporate leverage. The optimum leverage point Q of corporate finance theory is less by the operation of individual leverage, but individual leverage is not a sufficient substitute for corporate leverage to cause the AZQC curve to coincide with the AA′ curve, as maintained by the Modigliani-Miller thesis. Thus, the optimum leverage ratio for the firm is increased by anything that reduces the investor's opportunity to apply individual leverage profitably.

Raising margin requirements for the purchase of stock reduces the oppor-

Figure 1



Note: *Cost of capital* is defined as expected earnings as a percentage of market value of all securities.

Leverage is defined as market value of debt securities and preferred stock as a percentage of total market value of all securities.

tunity to use individual leverage profitably. However, this will be true only of corporations whose optimum leverage is as great or greater than one minus the margin requirement; e.g., if margin requirements are 70 percent, then only 30 percent individual leverage is possible in most cases.[7] Alternatively, trading on equity for one's own account as a substitute for buying the stocks of levered corporations whose managements are trading on equity for the corporate account would be profitable (in the cases of 70 percent margin requirements) only in the stocks of firms whose leverage ratios are less than 30 percent. Thus, in periods of high margin requirements the opportunities for substituting individual leverage for corporate leverage, in the case of highly levered firms, is restricted. High margin requirements should lead to higher optimum leverage ratios than would be the case in the absence of margin requirements.[8]

For firms whose leverage ratios are less than the 30 percent of the preceding example, the 30 percent margin requirement has no impact. That is, individual leverage is not restricted by the margin requirement. Therefore, firms whose leverage ratios are already low and for which individual leverage is more freely operative have less incentive to raise their leverage ratios, other things being equal.[9]

Accordingly, during periods of high margin requirements when individual leverage would be restricted and the advantage of corporate leverage increased, average leverage ratios for firms should be higher. Conversely, during periods of low margin requirements and relatively easy leverage practice, average leverage ratios should be lower. Suppose, however, that during a period which allowed relatively free use of individual leverage, the average leverage ratios were not appreciably lower. This consideration would tend to disavow the Modigliani-Miller contention (that individual leverage is a close substitute for corporate leverage) and support the contention that individual leverage is only a partial substitute for corporate leverage.

Also, if some investors held the conviction (implied by Modigliani and Miller) that they could secure for themselves through individual leverage the same combination of risk and return available to them through corporate leverage, the ratios would tend to be widely distributed. That is, the levered firm could no longer lower its average cost of capital below that of the unlevered firm. Its principal incentive for levering would disappear, and presumably the firm would be largely indifferent to its particular leverage ratio. Thus a wide scatter of ratios would be evident from the record of corporate leverage practices. Whereas, if the investor considered individual leverage as only a partial substitute for corporate leverage, the ratios would show a tendency to concentrate (cluster). Like firms would have comparable ratios, and most firms in any particular industry would have leverage ratios falling within a relatively narrow range compared to the broad possible range for the ratios.

Also, the concept of individual leverage as a partial substitute for corporate leverage would gain support from an absence of extreme concentration of the leverage ratios. That is, finance specialists do not allow for the use of individual leverage as a substitute for corporate

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[7] There may be some significant exceptions where individual leverage is more easily used, for example, in the case of senior issues convertible into the common stock of the corporation or in the case of the over-the-counter market for stocks, where the margin requirements may be less.

[8] Notice there is considerable evidence to indicate that higher margin requirements and a greater number of debt issues by corporations have coincided in the postwar capital market.

[9] This conclusion would be reinforced by evidence that corporations with low debt ratios tend to continue such policies.

leverage. The extreme version of finance specialists' exclusive reliance on corporate leverage would require all firms in a comparable risk class, insofar as they are maximizing, to move toward the same leverage ratio.

III. *Propositions to be Tested*

Therefore, for purposes of testing, the following propositions are used. The first proposition is implied by the Modigliani-Miller cost-of-capital thesis. The second proposition is supported by the thesis advanced in this paper, that:

(1) Individual leverage is a close substitute for corporate leverage, as shown by corporate leverage patterns between 1860 and 1959.

(2) Individual leverage is not a close substitute for corporate leverage but is a partial substitute, as shown by corporate leverage patterns between 1860 and 1959.

The American capital market of the early twentieth and late nineteenth centuries is an example of a period characterized by relatively free use of individual and corporate leverage. It is prior to control by the Federal Reserve Board of margin requirements on the purchase of stock. Contrasting data from the American capital market of this earlier period with data from the regulated market of recent times is available. To insure rough comparability of data, except for the variation in margin requirements of the two periods, consider the following assertion:

> Leverage was not only possible, but widely used by both individual investors and business enterprises in the last half of the nineteenth century and the first half of the twentieth century in the American capital market.

Examination of the assertion can proceed if it is known that the volume and type of leverage activity in the American capital market of the last half of the nineteenth century and the first half of the twentieth century was conducive to the use of individual and corporate leverage.

Thus the conclusions of this paper can be reached by examining the historical record of leverage in several industries, and from the industry examination by drawing the implications for the two propositions to be tested.

IV. *The Chronicle of Leverage*

It is clear from the volume of leverage activity in the decade 1950-59 that in large measure the necessary conditions exist in the current capital market for the individual investor or the management of the firm to achieve an optimum leverage ratio, given the individual's or firm's risk-return preferences. However, it is not apparent that the capital market of earlier decades was equally permissive of leverage. What was the amount and type of leverage activity characteristic of the late nineteenth and early twentieth centuries in the American capital market?

Evidence that corporate leverage was practiced in the last half of the nineteenth century is available from the published financial statements of the firms of the period. The figures of the industrial giants of the period 1860-69, the railroads, attest to the widespread practice of corporate leverage in that industry, as shown in Table 1. The average leverage ratio of 38.80 percent for the representative sample of 25 railroads indicates highly levered firms in the industry.[10] The common practice of the period in railroad finance was to purchase the right of way and lay the first section of track with equity capital.[11] On the basis of the

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[10] Henry V. Poor, *Manual of the Railroads of the United States*, New York: H. V. Poor and H. W. Poor, 1868.

[11] Alfred D. Chandler, Jr., "Patterns of American Railroad Finance," *The Business History Review*, XXVIII, September 1954, 263.

Table 1

Average Leverage Ratios of Railroads, 1860-69*

Firms with Assets of More Than $15,000,000	Percentage of Debt to Capitalization
Chicago & Northwestern	67
Erie	66
Michigan Southern & Northern Indiana	58
Pittsburgh, Fort Wayne & Chicago	56
Hudson River	53
Michigan Central	50
Pennsylvania	46
Chicago, Burlington & Quincy	42
Illinois Central	40
Philadelphia & Reading	38
Baltimore & Ohio	37
New York Central	32
Firms with Assets of Less Than $15,000,000	**Percentage of Debt to Capitalization**
Chicago & Alton	65
Northern Central	54
New York & Harlem	48
Delaware, Lackawanna & Western	32
Long Island	30
Little Miami	29
New York & New Haven	28
Chicago, Rock Island & Pacific	22
Central of New Jersey	20
Columbus & Xenia	14
Philadelphia, Wilmington & Baltimore	13
New Jersey	13
Cleveland, Columbus & Cincinnati	7

* Source: Henry V. Poor, **Manual of the Railroads of the United States, 1868.** The sample includes all the railroads with published balance sheets.

original equity share the firm could then be levered.

The average debt-to-equity ratio for a sample of firms in the textile industry of the same period reveals that the average proportion of debt approached 50 percent of their total capitalization.[12]

It is not surprising, perhaps, that early corporate enterprises were highly levered. However, for present purposes evidence that individual leverage was freely practiced during and following the period 1860-69 is equally important.

The individual investor may lever most directly through purchase of stock on margin, pledging the stock as collateral for the loan. Therefore the necessary ingredients for individual leverage are: (1) a supply of actively traded common stock, and (2) lenders able and willing to advance funds to investors for the purchase of the stock, accepting the stock as collateral for the loan. There is substantial evidence that both of these factors were present in the capital market of 1860 and thereafter.

In the 1856 returns made to the Secretary of Treasury, 360 outstanding stock issues for railroads were listed with a reported total value of $433,286,000. For comparison, railroad bond issues for the same year also numbered 360, with a total reported value of $363,137,000. Hedges quotes the Report of the Secretary of the Treasury to the effect that: "In the amount of capital involved, railroad securities bulked large, equaling in value all other outstanding securities in the country in 1856."[13]

According to Medbery:

> In 1868, at the Regular, and the now nonexistant Open Boards, there were bought 19,713,402 shares. . . . But we are only on the threshold of a proper estimate. . . . At the official boards, we shall be told, there is scarcely one tenth of the real Business of the stock market. Unfortunately, no registry is kept of these other transactions, and in reckoning them as ten times the whole sum we are liable to the danger attendant upon all conjectural calculations. [14]

During the period from 1890 to 1910:

> The approximate value of all stocks traded

[12] Lance E. Davis, "Ownership in the Early Textile Industry," *The Business History Review*, XXXII, Summer 1958, 205.

[13] Joseph E. Hedges, "Commercial Banking and the Stock Market Before 1863," *The Johns Hopkins University Studies in Historical and Political Science*, Baltimore: Johns Hopkins Press, 1938, LVI, 35-36.

[14] James K. Medbery, *Men and Mysteries of Wall Street*, Boston: Fields, Osgood, & Co., 1870, p. 46.

in on the New York Stock Exchange in twenty-one years amounted to about $240,000,000,000, of which about $119,000-000,000, represents the dealings of the last seven years. In ten years the stock sales exceeded the present estimated wealth of the United States. [15]

Also, see Table 2, which has been reproduced from Pratt's compilations.

The funds advanced by lenders for the purchase of stocks were popularly referred to as "call money" or "brokers' loans." The willingness of lenders to provide these funds for investors is indicated by the following statements:

> According to the New York Daily Express for October 14, 1837, "on stock, temporary loans can be had without the least difficulty" . . . By 1885, call loans had become such a large proportion of New York bank assets that complaints began to be heard to the effect that commercial customers were neglected in favor of such loans.[16]

According to Myers, after 1863 "the call loan became an increasingly important factor in the New York money market."[17]

Medbery makes some revealing comments on the period 1860-69:

> By a provision of statutory law, all outside National banks, numbering some sixteen hundred, are allowed to keep one half, and many three fifths, of their reserve balances in New York. In this way great financial centre is rapidly acquiring the function of a National clearing-house. These temporary deposits bear a small interest, and are subject to be called for at a day's notice. They can only be used . . . by the employing banks on the same conditions. The stock market supplies these conditions. . . . This vast volume of what may be styled fluid wealth is difficult of estimate in figures. The published statements of loans made by city banks make no distinction between discounts of commercial paper and what is advanced on securities. In sum total, the thirty banks lend weekly about $165,000,000. Indeed, including all New York banks, the average is nearly $255,000,000. During the week ending September 18, 1868, these banks lent $266,496,024. The real meaning of these last figures will be better understood when it is known that they exceed the entire average loans and discounts of all the national banks of New England and New York State, with the exception, of course, of the city itself. . . . Nigh one hundred and eight millions of the amount cited above were advanced by the down-town banks. What proportion of this was lent on stocks? Probably much over one third. As many of the other banks also make call loans, we may, perhaps, estimate that *from seventy to one hundred million dollars are furnished*

Table 2

Volume of Shares Traded, 1890-11*

Year	No. of Shares Traded	Approximate Value
1890	71,282,885	$ 3,977,664,193
1891	69,031,689	3,812,247,419
1892	85,875,092	4,874,014,262
1893	80,977,839	4,550,260,916
1894	49,075,032	3,094,942,769
1895	66,853,232	3,808,338,604
1896	54,654,096	3,329,969,940
1897	77,324,172	4,973,553,065
1898	112,699,957	8,187,413,985
1899	176,421,135	13,429,291,715
1900	138,380,784	9,249,285,109
1901	265,944,659	20,431,960,551
1902	188,503,403	14,218,440,083
1903	161,102,101	11,004,083,001
1904	187,312,065	12,061,452,399
1905	263,081,156	21,295,723,688
1906	284,298,010	23,393,101,482
1907	196,438,824	14,757,802,189
1908	197,206,346	15,319,491,797
1909	214,632,194	19,142,339,184
1910	164,051,061	14,124,875,897
1911	127,208,258	11,003,600,829

* Source: Pratt, p. 187.

[15] Sereno S. Pratt, *The Work of Wall Street*, New York: D. Appleton and Co., 1912, pp. 187-188.

[16] Hedges, *op. cit.*, p. 77, quoting Dewey, *State Banking*, p. 166.

[17] Margaret Myers, *The New York Money Market: Origins and Development*, New York: Columbia University Press, 1931, I, p. 148.

daily to the brokers and operators of New York.

> This, however, is but one element in the lending force of the city. There are five Trust Companies, with capital amounting in the aggregate to five millions and a half, which lend, at times, sixty million a week. There are also a great number of private banking-houses, . . . that daily loan vast sums of money on security. The foreign houses alone . . . employ not much less than two hundred million dollars of capital. [18]

Pratt has commented on credit conditions at the New York Stock Exchange at the turn of the century:

> The credit which Wall Street uses in its various operations is obtained primarily from the banks and trust companies in the financial district. . . . It has been seen that while the stock-broker executes orders for his customer on usually 10 percent margin . . . it would be manifestly impossible for any broker to do this without borrowing money from the banks. [19]

Around the turn of the century banks advanced funds to brokers by three different methods. Temporary loans to brokers were accomplished in part by "over-certification," endorsement of brokers' drafts by the banks. Pratt estimates the certification actually required in 1901 on the deliveries made in the Stock Clearing-House transactions to be $11,000,000,000. The Stock Clearing-House cleared about 85 percent of all sales of stocks at that time.

Pratt estimates brokers' loans made by the banks against collateral stock as "a large proportion of the business of many Wall Street Banks." These call money loans by the turn of the century are described by Pratt in these terms: "There is a regular place in the Board-Room for effecting loans, and certain members make this their exclusive business." [20]

Besides the commercial banks, the private banks (investment bankers) were also large lenders of money to brokers, and even some mercantile concerns lent money on stock collateral. "Railroad and insurance companies are at times large lenders. Russell Sage for many years was a heavy lender on the Street, keeping a considerable share of his fortune in cash, for profitable employment in this way." [21]

Most brokers seek to secure a certain proportion of their required line of credit on time. These loans are secured also by stock collateral, but are not subject to call until the expiration of a certain specified number of days. Pratt does not estimate the volume of time loans to brokers for the decades 1890-99 and 1900-09, but the well-established procedure then in existence for making time loans indicates that such loans were not uncommon.

For the decade 1920-29, the data confirm an expected large volume of brokers' loans. On December 31, 1928, the volume of total known brokers' loans outstanding amounted to $6,359,000,000. This figure rose to $8,484,000,000 by October 4, 1929. Following the break in the stock market, the volume dropped precipitously. Brokers' loans amounted to $2,573,000,000 by the end of 1930.[22] These computations are from the reports of the New York Federal Reserve member banks and the New York Stock Exchange. It is estimated that such reported loans approximated 70 percent of all brokers' loans in the United States for this date.

There is no reason to doubt the historical evidence that the necessary conditions for the practice of individual as well as corporate leverage have existed in the American capital market for the last one hundred years. In fact, there have been periods after 1860 when the

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[18] Medbery, op. cit., pp. 66-68 (italics mine).
[19] Pratt, op. cit., pp. 266ff.
[20] *Ibid.*, p. 274.
[21] *Ibid.*
[22] L. H. Haney, L. S. Logan, and H. S. Gavens, *Brokers' Loans*, New York: Harper & Brothers, 1932, pp. 28-29.

involvement of American investors in the stock market and in margin-buying of securities was proportionately much more extensive than has been typical of more recent decades. The reason for this is readily explained in terms of the highly regulated margin requirements applicable since 1934 to the purchase of stock. Also, it may be attributed in part to some diminution of the speculative fever of Americans due to the maturing of many industries and to the increased knowledge of speculators about their opportunities for gain in the stock market.

V. *Leverage Patterns and the Cost-of-Capital Controversy*

The historical record of leverage practice by industry provides a test of the competing propositions: (1) Individual leverage is a close substitute for corporate leverage, and (2) Individual leverage is only a partial substitute for corporate leverage from the viewpoint of the investor. Average leverage ratios for the industries studied should reveal which of these two propositions most nearly approximates the actual situation and, therefore, whether the cost-of-capital function is ultimately independent of leverage or determined in part by the leverage variable.

A. Test 1: Leverage Ratios Before Margin Requirements

Average leverage ratios should be lower in the absence of margin requirements if individual leverage is a close substitute for corporate leverage.

Table 3 shows that average leverage ratios were not lower prior to margin requirements. For the decade 1950-59, the average leverage ratio for firms in the railroad industry was 43.32 percent; for the decade 1900-09, it was 59.30 percent; for 1910-19, 58.52 percent; and for 1920-29, 58.50 percent. The average leverage ratio of the steel industry in the decade 1950-59 was 18.85 percent; in the decade 1900-09, it was 48.61 percent. The textile, rubber, shoe, and tobacco industries also had much higher average leverage ratios for the period 1900-09 than for 1950-59.

Furthermore, in the decade 1920-29, increasing Federal corporate income taxes favored the issuance by the firm of bonds with deductible interest charges, rather than of stock with dividends that had to be paid out of earnings after taxes. Thus leverage ratios for most industries could have been expected to rise in the decades following the increase of corporate tax levels. Actually, quite the contrary occurred.

The one exception to the generally lower leverage ratios that prevailed in the decade 1950-59 is the electric utility industry. However, there are good reasons for this unique situation.[23] It has been suggested that in the postwar expansion period, utility managements, urged on by regulatory policy, accepted the argument that a reduction in over-all capital cost (and hence lower rates to utility customers) could be secured by increasing the proportion of senior capital in the firm's capital structure.

The higher average level for the leverage ratios of the industries cited in the decades prior to margin requirements does not support proposition 1 (that individual leverage is a close substitute for corporate leverage).

During the era prior to margin requirements, investors could use individual leverage more freely than after the imposition of margin requirements; nevertheless, the emphasis on corporate leverage continued. The fact that average leverage ratios were not appreciably lower before margin requirements than afterward supports the proposition that individual leverage is only a partial (not a close) substitute for corporate leverage.

[23] F. B. Allen, "Does Going Into Debt Lower the 'Cost of Capital'?" *Analysts Journal*, X, August 1954, 57-61.

Table 3

Average Leverage Ratios of Firms by Industries Over Time*

Industry	1950-1959	1920-1929	1910-1919	1900-1909	1880-1889 ‖	1860-1869 ‖
Railroad	43.32	58.50	58.52	59.30	46.14	48.75Δ
Steel	18.85	36.34	52.40	48.61Δ	....	....
Petroleum	19.66†	21.35	26.33	25.00	....	....
Utility	64.00‡	63.50§	46.81	53.90	....	....
Textile	26.80	41.00	46.17	46.72	....	....
Rubber	34.20	N.A.	32.72	57.00	....	....
Shoe	31.00	N.A.	49.60	45.00	....	....
Tobacco	37.16	36.09	N.A.	60.80	....	....

* Source: **Moody's Transportation Manual**, 1959, 1930, 1916, 1906; **Moody's Industrial Manual**, 1959, 1930, 1916, 1906; **Moody's Public Utility Manual**, 1959, 1930, 1916, 1906. H. V. Poor, **Manual of the Railroads of the United States**, 1888, 1868.
The sample for each decade is highly representative; particularly for the decades 1950-1959 and 1920-1929, the sample includes more than 90 percent of the firms of the respective industries with financial statements published in **Moody's Manual**.
† The sample includes all major petroleum firms in each decade except for the omission of Standard Oil Companies where duplication would appear to bias the sample.
‡ Electric operating utilities predominate in each sample of utilities.
§ Elaborate financial interlocking of holding companies tends to distort the sample.
Δ These are firms with more than $15,000,000 assets.
‖ The sample includes all major railroads with financial statements published in **Poor's Manual**, 1888 and 1868.

B. Test 2: Clustering of the Leverage Ratios

Leverage ratios should cluster if individual leverage is only a partial substitute for corporate leverage. Table 4 shows that leverage ratios in several industries over time have continued to cluster. Column 5 of Table 4 shows that for four decades between 1900 and 1959, the percentage of steel firms in the model class did not fall below 66 percent of the firms in the sample and rose as high as 95 percent of all firms in the sample. In the petroleum industry the concentration was 100 percent for two of the decades and was never below 90 percent. For utilities of the same periods, the figures reached a high of 100 percent and a low of 55 percent.

The distribution of leverage ratios does not support the argument of proposition 1, that investors consider individual and corporate leverage to be close substitutes. Also, the record does not support the highly concentrated distribution of leverage ratios implied by the finance specialists' position, which makes no allowance for the use of individual leverage as a substitute for corporate leverage. There is clustering, but not the extreme concentration that would support the finance specialists' view.

The actual historical distribution of leverage ratios supports proposition 2, that investors consider individual leverage a partial (but not a close) substitute for corporate leverage.

VI. *Conclusion*

The assertion that corporate and individual leverage were actively practiced by firms and investors in the last half of the nineteenth and the first half of the twentieth century is strongly supported by the data. Therefore, there is reason to believe that the American capital market, before margin requirements for the purchase of stock were imposed, provided an environment more hospitable to the use of individual leverage. With this reasoning in mind, tests were devised for the key assumption of the cost-of-capital controversy: Individual leverage is a close substitute for corporate leverage. The conclusion, on the basis of the historical record of leverage ratios for firms in several industries, is that individual leverage is a partial (but not close) substitute for

Table 4

Clustering of the Leverage Ratios by Industries (Class Interval, 20 Points)*

Industry (1)	Decade (2)	Number of Firms in Sample (3)	Number of Firms in Modal Class (4)	Percentage of Firms in Modal Class (5)	Percentage of Firms in Uniform Distribution (6)
Railroad	1950-1959	22	14	64	20
	1920-1929	30	15	50	20
	1910-1919	38	20	53	20
	1900-1909	36	28	76	20
	1880-1889	28	18	64	20
	1860-1869	25	10	40	20
Steel	1950-1959	20	19	95	20
	1920-1929	32	21	66	20
	1910-1919	35	22	66	20
	1900-1909	42	30	71	20
Petroleum	1950-1959	15	15	100	20
	1920-1929	17	17	100	20
	1910-1919	12	11	92	20
	1900-1909	30	27	90	20
Utility	1950-1959	24	24	100	20
	1920-1929	21	13	62	20
	1910-1919	27	16	59	20
	1900-1909	22	12	55	20
Consumer Nondurable†	1950-1959	24	14	58	20
	1920-1929	27	13	48	20
	1910-1919	47	25	53	20
	1900-1909	32	17	53	20

* Source of data same as Table 3.
† Textiles, rubber, shoe, and tobacco companies.

corporate leverage. By levering, the firm can move the investor to a preferred position that the investor cannot secure for himself through individual leverage.

Widespread practice of leverage by American industry and investors, as shown by the historical record and statistical findings as well as by *a priori* reasoning, seems to confirm the fact that it "pays" the firm to trade on its equity.

►WILLIAM G. DEWALD

Money Supply Versus Interest Rates As Proximate Objectives of Monetary Policy

I. *Introduction*

A recently published article by Lyle E. Gramley and Samuel B. Chase, Jr. in the *Federal Reserve Bulletin* states that the money supply is an untrustworthy indicator of monetary policy because the link between monetary policy actions and both money and interest rates is a loose one.[1] They believe that the effect of a given change in the security holdings of the Federal Reserve may have unpredictable effects so that either a monetary expansion or contraction or an augmented or diminished change in interest rates could conceivably result. The empirical fact that the money supply (demand deposits and currency) has tended to grow least, or to decline, during recessions and to grow most during booms is accountable, according to Gramley and Chase, to the substitutability between time deposits and securities. Hence, the "monetarist" conclusion that monetary policy has been destabilizing because of procyclical variation in the money supply seems unwarranted to them.[2] A similar point has been made by a number of other "ratist" economists, including James

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[1] Lyle E. Gramley and Samuel B. Chase, Jr., "Time Deposits in Monetary Analysis," *Federal Reserve Bulletin*, LI, October 1965, 1380-1406.

[2] Gramley and Chase refer to individuals who favor monetary policy actions to control the money supply, high-powered money, or bank reserves as "monetarists." Those who favor policy actions to control interest rates might accordingly be labeled "ratists."

Duesenberry and James Tobin.[3] Federal Reserve policy is sometimes criticized by such "ratists," who charge that interest rates have changed insufficiently far or fast in response to recession, rather than that they have possibly perverse destabilizing effects.

II. *Does the Quantity of Money Depend Only On the Demand for Money?*

There is an apparent contradiction between the Gramley-Chase argument that the quantity of bank deposits is determined by demand factors and their formal model of deposit determination that is explicitly introduced in words and pictures. On the one hand, they write that:

> the constraint on bank deposits—and hence on bank asset holdings—is derived from the public's desire to hold bank deposits (p. 1385);
>
> Supply functions for demand and time deposits are thus perfectly elastic at quoted deposit rates, r_d^* on demand balances and r_t^* on time accounts. . . . (p. 1384).

On the other hand, though the authors do not explicitly graph a supply function for money or deposits, money supply functions can readily be derived from their assumptions. It can be shown that these assumptions clearly make the supply of money and deposits depend on the constraint of available currency and bank reserves. Gramley and Chase assume that:

> R_0 represents the total quantity of currency and bank reserves supplied by the central bank and is taken as exogenously determined (p. 1387).

And they argue that the market rate of interest on private securities depends on the equilibrium between the supply and demand for R given income, rates of interest on demand and time deposits, and related demand functions. The authors show that the analysis can be expressed in terms of the supply and demand for R, or equivalently by Walras' law in terms of the supply and demand for securities. To avoid complications of real balance effects, the excess supply of private securities is assumed equal to the central banks' holdings of private securities which in turn equal the available supply of currency and bank reserves. Thus, the real value of the net debt of the government is assumed to be constant.

The formal equivalent of their model would appear to be the following comparative static model:

Behavioral Relations:

$$D_D^P = D_D^P (r_s, r_d, r_t, W) \quad (1)$$

$$T_D^P = T_D^P (r_s, r_d, r_t, W) \quad (2)$$

$$R_D^P = R_D^P (r_s, r_d, r_t, W) \quad (3)$$

$$R_{DE}^B = R_{DE}^B (r_s, r_d, r_t, bW) \quad (4)$$

$$R_S = R^* \quad (5)$$

$$W = W^* \quad (6)$$

$$b = b^* \quad (7)$$

$$r_d = r_d^* \quad (8)$$

$$r_t = r_t^* \quad (9)$$

$$k = k^* \quad (10)$$

$$m = m^* \quad (11)$$

Variables:

D = demand deposits
T = time deposits
R = currency and bank reserves (high-powered money)
W = wealth (or income)
M = money
b = ratio of bank net worth to W
r = rate of interest
k = required reserve ratio on D^P
m = required reserve ratio on T^P

[3] See, James Duesenberry's "Discussion" of Milton Friedman's "The Demand for Money: Some Theoretical and Empirical Results," *American Economic Review, Papers and Proceedings*, XLIX, May 1959, 1528-1530; and "The Portfolio Approach to the Demand for

Identities:

$$M = R^P + D^P \quad (12)$$

$$R_D = R_D^P + R_{DE}^B + R_{DQ}^B \quad (13)$$

$$R_{DQ}^B = kD_D^P + mT_D^P \quad (14)$$

Equilibrium Condition:

$$R_S = R_D \quad (15)$$

Subscripts:

D = demand
S = supply
E = excess reserves
Q = required reserves
s = private securities
d = demand deposits
t = time deposits

Superscripts:

P = public
B = bank
* = exogenous

The model consists of four behavioral relations governing the demand for demand deposits, time deposits, currency, and bank reserves. Each of these relations is considered to depend on the market rate of interest on private securities, and the rates payable on demand and time deposits. Gramley and Chase do not explicitly introduce wealth as a constraint in these demand functions. But it is employed as a constraint in the empirical study they refer to,[4] and indeed, their demand functions would make no sense in the absence of a wealth constraint or its equivalent. The model involves seven exogenous variables which include monetary reserves, total wealth and the banks' share of it, the interest rates and required reserve ratios on demand and time deposits. The time-deposit rate is subsequently introduced as an endogenous variable. The model includes the definitions of money, monetary reserves, and required reserves. Finally, there is the equilibrium condition that the supply and demand for R are equal. Thus, there are 15 equations in the model; there are 15 variables; and if all goes well the endogenous variables of the model are simultaneously determined. Any of the endogenous variables—r_s, D^P, T^P, R^P, R_E^B, R_Q^B, or M—may be solved as functions of the exogenous variables R^*, W^*, b^*, r_d^*, r_t^*, h^*, and m^*.

When their analysis is expressed in this way, it is difficult to make any sense of the authors' statement that:

> In fact, changes in the money stock and interest rates are determined simultaneously. But if logical priority is to be assigned to the correlative movement of the two variables, changes in the money stock are properly viewed as the result, not the cause, of declining yields on market securities (p. 1391).

It is apparent that r_s and M are simultaneously determined in their model as are all of the endogenous variables. Gramley and Chase deprecate the solution of the model for M as:

. . . simply an equilibrium condition speci-

Money and Other Assets," *The Review of Economics and Statistics*, XLV, No. 1, Part 2 (Supplement: Feb. 1963), 9-31; see also James Tobin, "Commercial Banks as Creators of 'Money'," in Deane Carson (ed.), *Banking and Monetary Studies*, Homewood, Illinois: Richard D. Irwin, Inc., 1963, pp. 408-419, and, (with William C. Brainard), "Financial Intermediaries and the Effectiveness of Monetary Control," *American Economic Review, Papers and Proceedings*, LIII, May 1963, 383-400.

[4] Frank de Leeuw, "A Model of Financial Behavior" in James S. Duesenberry, Gary Fromm, Lawrence R. Klein, and Edwin Kuh (ed.), *The Brookings Quarterly Econometric Model of the United States*, Chicago: Rand McNally and Co., 1965.

> fying that total demand for currency and bank reserves equals the total quantity outstanding (p. 1390).

But the same statement could be applied to each of the endogenous variables of the model. Each depends on the imposition of the equilibrium condition and on every other equation of the model for its determination.

It is interesting to note that the model can be modified without altering any of its implications by substituting a money equilibrium condition for the high-powered money equilibrium condition of equation 15. The demand for money is $D^P_D + R^P_D$. The supply of money for given R, k, m, T^P, and R^P is dependent upon bank demand for excess reserves. Under these assumptions, the supply of money is equal to the amount of private securities that banks choose to hold in addition to the amounts supported by their time deposits, instead of excess reserves. The money supply function is the following:

$$M_s = R^P + D^P_s = \frac{R^P + (R^\bullet - R^P) - m^\bullet T^P - R^B_{DE}}{k^\bullet}.$$

R^P is assumed equal to R^P_D, since any part of available high-powered money may be held by the public as currency. As the model is constructed, equality of the supply and demand for R, D, or M implies the simultaneous equality of the supply and demand for the remaining two variables. Monetary equilibrium thus implies equality between the supply and demand for demand deposits, and for high-powered money, given the exogenous variables of the analysis.

The Gramley-Chase money supply function has been shown indeed to be constrained by the amount of high-powered money available to be held, the required reserve ratios, and all of the variables that constrain the demand for currency, time deposits, and excess reserves. This contradicts their statement that:

> In this model, banks are not constrained in their ability to supply deposits by the existence of legal reserve requirements or by the level of bank reserves (p. 1385).

The model of this context superficially assumes that banks are indifferent to the choice between demand and time deposits as alternative sources of funds to support their security holdings and excess reserves. Gramley and Chase subsequently relax this assumption when the rate of interest on time deposits is introduced as an endogenous variable which banks can manipulate as they search for profits subject to market constraints. But the fact remains that *the supply of money is constrained by required reserve ratios and the level of bank reserves and currency.*

A final point in this discussion of constraints on the money supply refers to Gramley and Chase's statement that:

> . . . ultimate capacity limits on bank deposits clearly exist, but their existence does not contribute to an understanding of why and how bank deposits change in response to open market operations (p. 1389).

There is an element of truth in this, since the public and bank-desired holdings of various assets clearly are vital determinants of the quantity of money or of interest rates. But capacity money supply measures typically do not ignore this desired distribution. Essentially, they provide a measure of the constraining influence of open market operations and required reserve ratios subject to a desired distribution of assets. Maximum money or bank credit measures have been used by Solow and Kareken, Teigen, and Goldfeld, among others.[5] That the capacity

[5] John Kareken and Robert M. Solow, "Lags in Monetary Policy" in *Stabilization Policies, Research Studies Prepared for the Commission on Money and Credit,* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1963; Ronald L. Teigen, "A Structural Approach to the Impact of Monetary Policy," *Journal of Finance,* XIX, No. 2, Part I, May 1964, 284-308; Stephen M. Goldfeld, *Commercial Bank Behavior and Economic Activity: A Structural Study of Mone-*

limits on the money supply are relevant as a factor explaining money supply variation is apparent in Figure 1, which records the daily average maximum and actual money supply by months for the period 1948-65. Maximum money is calculated as $\frac{\text{Actual Money}}{\text{Required Reserves}} \times \text{Actual}$ Reserves, and thus it assumes no excess reserves and a given distribution of currency and deposits subject to different required reserve ratios. Though capacity as so measured may not be very informative about the adjustment process by which changes in bank reserves or high-powered money affect the quantity of money, the fact that 94 percent of the quarterly variation in changes in the quantity of money from 1948 through 1965 was attributable to changes in maximum money suggests that the constraints of required reserve ratios and bank reserves could not easily be ignored.[6]

The analysis to this point has established that Gramley and Chase may be quite correct in pointing out that in assessing the effects of the exogenous variables on such endogenous variables as the quantity of money and the rate of interest on private securities, interaction in the endogenous variables must be accounted for. But this in no way implies that the exogenous variables or the constraints of the model are not important. In particular, the assumptions of their analysis have been shown to imply that the supply functions for money and demand deposits are constrained by the availability of monetary reserves, their explicit statements to the contrary.

III. *The Taxonomic Effects of Open Market Operations*

Gramley and Chase show that it is theoretically possible for Federal Reserve open market purchases to cause the rate of interest on private securities to either rise or fall. This results from the way the demand for time deposits is related to the demands for demand deposits and for private securities. It is argued that if demand deposits and time deposits were close enough substitutes, an increase in the private security rate could result. Then an open market purchase which decreased the time deposit rate would tend to increase the demand for demand deposits relative to time deposits, and hence increase the demand for high-powered money causing the private security rate to rise. A decrease in the private security rate would result if time deposits and private securities were close enough substitutes. Then an open market purchase which decreased the rate of interest on time deposits would tend to decrease the demand for time deposits and to increase the public's excess demand for private securities driving down the rate on private securities.

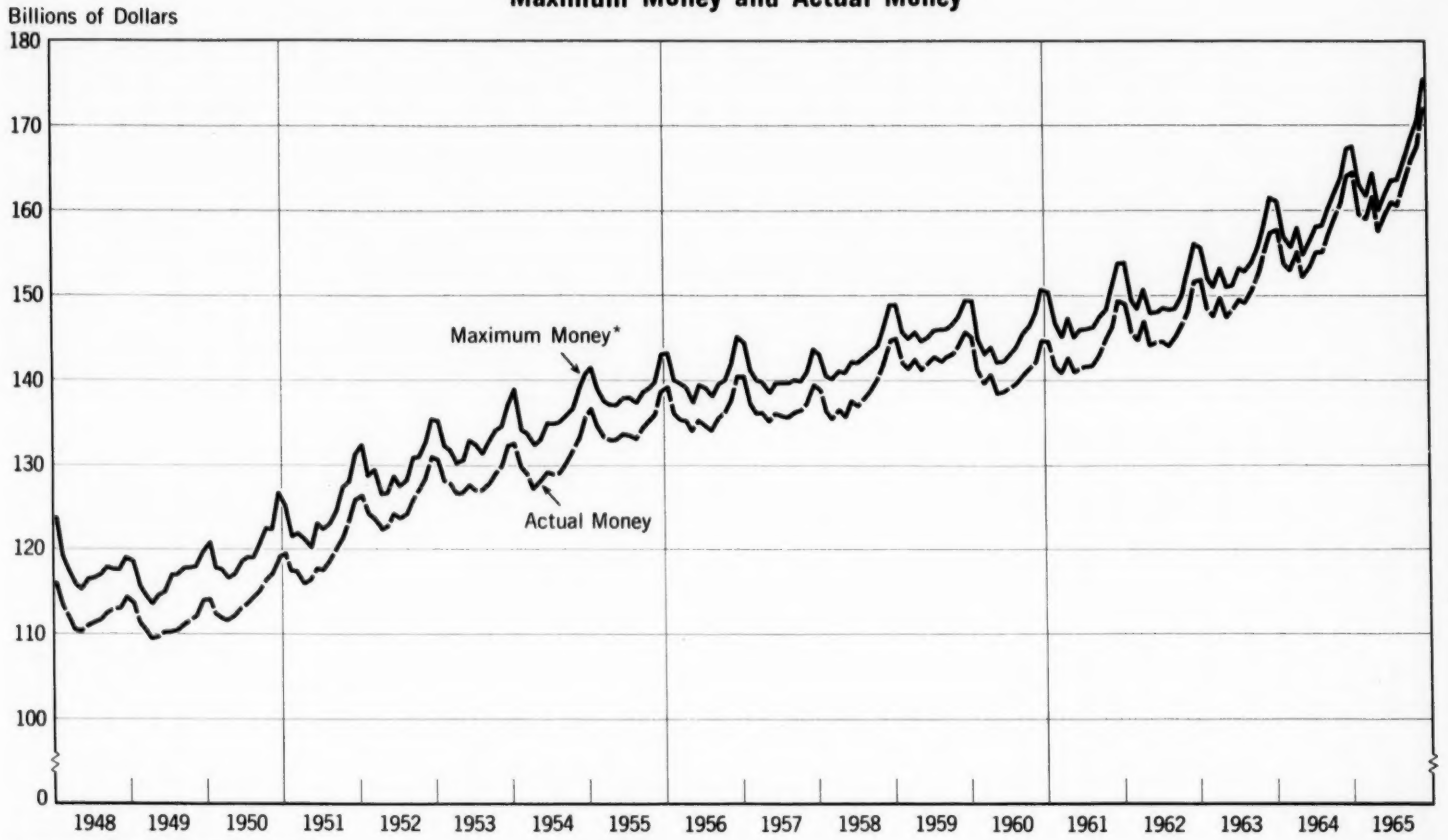
Gramley and Chase deny that the effectiveness of open market operations can be deduced in any "meaningful economic sense . . . by reference to changes in money. . . ." (p. 1396). It is interesting to complete the theoretical taxonomy by noting that the quantity of money could either rise or fall in response to an open market purchase. If the power of open market operations is measured by its effect on the quantity of money, then open market operations would be relatively more powerful if time and demand deposits were close substitutes, since

tary Policy in the Postwar United States, Amsterdam: North Holland Publishing Company, 1966.

[6] Though Gramley and Chase do not take up the point in the present context, it is of course possible that bank reserves or high-powered money are not policy-controlled, but are adjusted by open market operations to obtain, for example, a desired market rate of interest on private securities. If this were the case in actual fact, then both the quantity of money and reserves might be simultaneously determined as endogenous magnitudes rather than the former being determined in response to the exogenously determined amount of reserves.

Figure 1

Maximum Money and Actual Money



Source: Federal Reserve Bulletin

* Maximum Money Supply = Quantity of Money X $\frac{\text{Member Bank Reserves}}{\text{Member Bank Required Resources}}$

added high-powered money would be freed by the induced reduction in time deposits to support additional demand deposits. Open market operations would be less powerful in affecting the quantity of money if instead a cut in private securities rates stimulated time deposit expansion at the expense of demand deposits.

The formal model that was discussed earlier can be modified to include the interest rate on time deposits as an endogenous variable in order to make these possibilities precise. Eliminate equation (9), $r_t = r_t^*$, and substitute equations (9a) and (9b):

$$T_S^B = T_S^B (r_s, r_d, r_t, bW); \quad (9a)$$

$$T_S^B = T_D^P . \quad (9b)$$

The first equation gives the supply of time deposits which presumably varies positively with the rates of interest on private securities and demand deposit and with bank net worth, and negatively, with the rate of interest on time deposits. The various conclusions about the impact of open market operations follow from the particular assumptions that are made about the supplies and demands for financial assets. It can be shown that a necessary, but not a sufficient, condition for an *increase* in the interest rate on private securities in response to an open market *purchase* is that:

$$\frac{\partial R_{DE}^B}{\partial r_t} + k^* \frac{\partial D_D^P}{\partial r_t} + m^* \frac{\partial T_D^P}{\partial r_t} < 0.$$

This means that the demand for bank reserves must *increase* as a result of a decline in the rate of interest on time deposits. But even if this condition holds, the rate of interest on private securities would increase only if the induced increase in the demand for reserves by banks was sufficiently great to offset the unambiguous decrease in the demand for high-powered money that would be associated with an increase in the rate of interest on private securities. For the model with an endogenous rate of interest on time deposits, the total derivative of the rate of interest on private securities with respect to an exogenous change in high-powered money is recorded in footnote 7. The assumed signs (following Gramley and Chase) of the partial derivatives are shown in parentheses above the respective derivatives.[7]

There is a logical possibility that an open market purchase might cause a decline in the money supply, although Gramley and Chase do not take up this case. It would be necessary for associated increases in the demand for high-powered money to exceed the increased supply. Since the response of the money supply to an increase in the rate of interest on private securities is unambiguously

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[7]

$$\Delta \frac{dr_s}{dR^*} = \overset{(+)}{\frac{\partial T_D^P}{\partial r_t}} - \overset{(-)}{\frac{\partial T_S^B}{\partial r_t}}$$

$$\Delta = \left(\overset{(+)}{\frac{\partial T_D^P}{\partial r_t}} - \overset{(-)}{\frac{\partial T_S^B}{\partial r_t}} \right) \left(\overset{(-)}{\frac{\partial R_D^P}{\partial r_s}} + \overset{(-)}{\frac{\partial R_{DE}^B}{\partial r_s}} + \overset{(+)(-)}{\frac{k^* \partial D_D^P}{\partial r_s}} + \overset{(+)(-)}{\frac{m^* \partial T_D^P}{\partial r_s}} \right)$$

$$- \left(\overset{(-)}{\frac{\partial T_D^P}{\partial r_s}} - \overset{(+)}{\frac{\partial T_S^B}{\partial r_s}} \right) \left(\overset{(0)}{\frac{\partial R_D^P}{\partial r_t}} + \overset{(-)}{\frac{\partial R_{DE}^B}{\partial r_t}} + \overset{(+)(?)}{\frac{k^* \partial D_D^P}{\partial r_t}} + \overset{(+)(+)}{\frac{m^* \partial T_D^P}{\partial r_t}} \right)$$

(continued on page 516)

Member Bank Required Resources

positive, a decline in the private security rate would unambiguously damp the monetary expansion that is directly related to an open market purchase. A decline in the rate of interest on time deposits would tend to decrease required reserves as time deposit demand fell, thus limiting the damping effect of the increase in excess reserves associated with a decline in the time deposit interest rate. Thus, for the money supply to decrease in response to an open market purchase, it would be necessary that the increases in the public demand for currency and time deposits, and bank demand for excess reserves, rise sufficiently with respect to the decrease in the rate of interest on private securities. This would have the desired effect of offsetting both the increase in the supply of high-powered money and any excess of increased demand for excess reserves over decreased required reserves on time deposits that accompanies a decline in the rate of interest on time deposits.

It is apparent that the effect of open market operations on the quantity of money and interest rates is an empirical question. In this regard, Gramley and Chase refer to the de Leeuw model, and conclude that:

> . . . these results confirm the view that monetary policy, through its impact on market rates of interest, has an important bearing on the level of commercial bank time deposits. They also indicate why the money stock may vary procyclically around turning points in economic activity despite countercyclical changes in bank reserves (p. 1394).

This conclusion is based on the fact that procyclical time deposit growth in the period 1948-64 apparently resulted from the lesser responsiveness of time deposits than demand deposits to income changes and the greater responsiveness of time deposits than demand deposits to interest rates. Their conclusion, according to the present argument, also requires that changes in bank reserves or high-powered money were indeed countercyclical, and that the behavior of excess reserves and currency holdings did not reverse the conclusion. Cagan's work suggests that relative currency changes account for about half the variation in the rate of monetary growth from 1877 to 1954, and thus currency changes might also account for procyclical monetary variability.[8] De Leeuw (and others) have estimated that the demand for excess reserves varies inversely with interest rates, and thus contributes further to procyclical monetary variation. There are clearly a variety of reasons, theoretically and empirically,

$$\Delta \frac{dr_t}{dR^*} = \overset{(+)}{\frac{\partial T_S^B}{\partial r_s}} - \overset{(-)}{\frac{\partial T_D^P}{\partial r_s}}$$

$$k^* \frac{dM}{dR^*} = 1 + \left[(k^* - 1) \overset{(-)}{\frac{\partial R_D^P}{\partial r_s}} - \overset{(+)(-)}{\frac{m^* \partial T_D^P}{\partial r_s}} - \overset{(-)}{\frac{\partial R_{DE}^B}{\partial r_s}} \right] \frac{\partial r_s}{\partial R^*} + \left[(k^* - 1) \overset{(-)}{\frac{\partial R_D^P}{\partial r_t}} - \overset{(0)}{\frac{m^* \partial T_D^P}{\partial r_t}} - \overset{(+)(+)}{\frac{\partial R_{DE}^B}{\partial r_t}} \right] \frac{\partial r_t}{\partial R^*}$$

[8] Phillip Cagan, *Determinants and Effects of Changes in the Stock of Money*, 1875-1960, New York: National Bureau of Economic Research, 1965.

Table 1
Cyclical Behavior of Monetary Policy Measures

		Compounded Annual Rates of Change (Percent)	
		Reserves Available for Private Demand Deposits	de Leeuw Money Supply
Between National Bureau of Economic Research Turning Points:			
July 1953(P)	—August 1954(T)	+3.1	+4.8
August 1954	—July 1957(P)	+0.6	−0.7
July 1957	—April 1958(T)	+1.2	+3.0
April 1958	—May 1960(P)	−0.1	+0.8
May 1960	—February 1961(T)	+2.6	+7.6
February 1961	——	+1.6*	+2.0†
National Bureau Peak Month and Five Following Months:			
July 1953		−1.5	+3.4
July 1957		−2.1	−2.2
May 1960		+3.5	+7.9
Treasury Bill Rate Peak Quarter and Following Quarter:			
II, 1953		+0.4	+2.9
III, 1957		−2.1	−2.2
IV, 1959		−4.5	−5.1
National Bureau Trough Month and Five Following Months:			
August 1954		+4.0	+4.5
April 1958		+4.8	+12.1
February 1961		+1.2	+1.8
Treasury Bill Rate Trough Quarter and Following Quarter:			
II, 1954		+3.8	+5.6
II, 1958		+4.8	+12.1
II, 1961		+3.2	+1.8

Source: Data from Federal Reserve Bank of St. Louis.
* Through February, 1966
† Quarterly Through IV, 1962

to explain procyclical monetary variation. But the key question involves Gramley and Chase's assertion that there has been countercyclical variation in bank reserves or high-powered money. This vital point is examined below.

IV. *Does the Demand for Time Deposits Account for Procyclical Variation in Money?*

Perhaps the most important policy statement that Gramley and Chase make concerns the rationalization of the procyclical variation in the quantity of money in spite of countercyclical monetary policy actions:

> The money stock has a procyclical component. As a matter of fact, money balances were not enlarged appreciably during any of the last three recessions—even though the growth of total bank deposits and bank credit accelerated. Periods of rapid monetary growth were concentrated in the early quarters of expansion, when gross national product was rising sharply. Because it takes the stock of money as a policy-determined variable, traditional analysis assigns poor marks to the central

> bank for its conduct of policy in these circumstances. It fails to recognize that substitution between time deposits and securities may be an important source of procyclical variations in the stock of money even in the face of countercyclical central bank policy (p. 1393).

They are correct in pointing to the effects on the money supply of cyclical variation in market rates of interest. For a given amount of high-powered money, it is certainly true that a decline in interest rates could be expected to reduce the quantity of money. This is accountable to an increase in the demand for excess reserves by banks, and possibly to an increase in the demand for time deposits by the public if rates of interest on time deposits are sticky and decline less than interest rates on private securities. But this does not establish that procyclical variations in the quantity of money have occurred *despite countercyclical central bank policy.*

Ignoring member bank borrowings, as Gramley and Chase do, central bank policy would presumably be measured by high-powered money and required reserve ratios. A measure of policy actions is the maximum money supply that was referred to earlier. It has been noted that the maximum money supply parallels the procyclical variation in money. Another measure of policy actions is the quantity of member bank reserves available for private demand deposits adjusted for changes in required reserve ratios. As Table 1 demonstrates, this measure of open market operations and required reserve ratios in fact tended to increase most during the recessions delineated by the National Bureau of Economic Research and to increase least during expansions. Thus, procyclical variability in money was at least partly accountable to the cyclical pattern of time deposit growth. But the record of monetary policy actions by this accounting seems better than it actually was. Except for 1960, the reserves available for private demand deposits increased less in the six months following cyclical peaks than in the entire peak to trough period. If one considers the peak in the Treasury bill rate as the signal that the authorities desired an expansionary monetary policy, the postwar record is even worse at cyclical peaks. Without exception, growth in reserves for private deposits during the quarter of peak Treasury bill rates and the following quarter was less than the average for the entire period and less than the average for the succeeding six months. The fact that reserves for private deposits increased more during recessions than otherwise is thus accountable to the very fast pace of expansion of the reserve base during the later stage of a contraction. Insofar as timing is important, particularly if there are lags in the effect of monetary policy, this is not very commendable. The record of monetary policy was better at cycle troughs than at peaks. The maximum rate of expansion of the reserve base typically occurred around cyclical troughs in interest rates and in economic activity.

Whether policy actions were indeed expansionary during recessions and contractionary during booms ideally might be measured by the sum of the effects of the variables that are subject to control, e.g., Federal Reserve security holdings, required reserve ratios, and the discount rate. This is approximated by using the de Leeuw stock equilibrium money supply function to calculate the effect of changes in the policy-controlled tools during expansions and contractions. His estimated money supply function is:

$$S_M = \frac{RES_{NBC}}{\left(\begin{array}{c} 1 - R_{DD} + .84\ (RRR_{DD})\left(R_{DD} + R_{DD_{GF}}\right) + .82\ (RRR_{DT})\ (R_{DT}) \\ + (.011RM_{FRB} - .010\ RM_{GBS3} - .007)\ (R_{DD} + R_{DT}) \end{array}\right)}$$

where

S_M = private demand deposits and currency
RES_{NBC} = unborrowed high-powered money
R_{DD} = ratio of DD to S_M
R_{DT} = ratio of DT to S_M
$R_{DD_{GF}}$ = ratio of DD_{GF} to S_M
DD = private demand deposits, adjusted
DT = private time deposits
DD_{GF} = U.S. Government deposits at commercial banks
RRR_{DD} = average required reserve ratio on member bank demand deposits
RRR_{DT} = required reserve ratio on member bank time deposits
RM_{FRB} = Federal Reserve discount rate
RM_{GBS3} = 3-month Treasury bill rate

At the average 90-day Treasury bill rate for the sample period 1948-62 as calculated from data in de Leeuw's statistical appendix, average annual rates of change in the money supply were calculated for the National Bureau expansion and contraction periods and around cycle turning points. These results are recorded in Table 1.

The same general conclusions can be drawn on the basis of each of the measures of policy actions. With the exception of the high rate of expansion following the May 1960 peak, monetary policy actions were less expansionary by each measure during the six months following cyclical peaks than for the full peak-to-trough period. By each measure, policy was more expansionary following troughs than over the entire expansion, with the exception of the 1961 upturn. The conclusion of this reading of policy actions is that in the post-Accord period, policy actions have typically been less expansionary than warranted by current conditions following business cycle peaks or cyclical peaks in interest rates. Thus, the assertion by Gramley and Chase that the money supply has varied procyclically in spite of countercyclical policy actions must be questioned at least in part. Their assertion stands over full periods between business cycle turning points. But it is generally incorrect over the periods during which contraction occurs.

V. *Is the Expenditure Sector Independent of the Monetary Sector?*

A serious limitation of the Gramley-Chase model of financial behavior for policy implications is that it ignores interrelationships between expenditures and the supplies and demands for financial assets. This results from two assumptions. First, real balance effects are eliminated through the assumption that the government's monetary obligation to the public (and possibly its total debt, if there is incomplete discounting of future tax liabilities) equals government holdings of securities issued by banks and the public. Second, expenditure is considered to be altogether independent of market rates of interest. As a consequence of these assumptions, Gramley and Chase find the determination of various financial quantities and rates of interest *for given amounts of expenditure.*

These simplifying assumptions may be appropriate to permit the limited objective of a somewhat less aggregative analysis of the determination of market rates of interest than is common. Gramley and Chase could consider the simultaneous determination of interest rates on private securities, demand deposits and time deposits; and they could examine the consequences of different degrees of substitutability between financial assets on the amount by which the various interest

rates and the money supply would change in response to an open market transaction by the central bank. But they may not have been justified in concluding that the model rationalizes the procyclical variation in the quantity of money despite countercyclical open market operations. This they claim to have done by accounting for the effects of market rates of interest rising during booms and falling during recessions. But decline in market rates of interest during recessions is correctly accountable to monetary forces alone only under their emasculating assumptions. If either of their assumptions are relaxed to obtain a model of interdependency between the financial and expenditure sectors of the economy, then the general decline in market interest rates during recessions might be due to either or both a decline in planned expenditure as a function of interest rates or an increase in the supplies relative to the demands for financial assets including money. And the possibility of destabilizing procyclical monetary policy emerges if required reserve ratios, the discount rate, the open market security holdings and other variables controlled by the central bank have the effect of *reducing* supply relative to demand for financial assets, despite the fact that this effect is outweighed by the contractionary influence on market interest rates of declining planned expenditures. Thus, the conclusion that procyclical variation in deposits and currency is accountable to the growth in time deposits and decline in demand deposits in spite of countercyclical monetary policy actions during recessions is not established except as a theoretical possibility. When the Gramley-Chase model is extended to consider the interaction of expenditures with the financial sector of the economy, the test of countercyclical monetary policy actions is found in neither market interest rates nor the amount of money, but in the variables that are directly controlled by the monetary authorities. Thus, the Gramley-Chase argument evades the issue of destabilizing monetary policy through the assumptions that expenditure is independent of both real financial balances and market rates of interest. Their argument ignores the simultaneous determination of real output, employment of factors of production, the level of prices and interest rates; and therefore it fails to account for indirect effects on money and interest rates that feed back to markets for financial instruments.

Such feedback effects are easily incorporated into the model. To illustrate, suppose the flow of real expenditures is inversely related to the rate of interest up to a full employment level of output, and that the price level is perfectly flexible upward at full employment output, and perfectly inflexible downward at less than full employment. The rate of interest on private securities is assumed to be the link between the financial and the expenditure sectors of the economy. These assumed relations are introduced as equation (16) and (17) to add to the earlier model.[9]

$$E\ (r_s,\ y) = 0. \qquad (16)$$

$$\begin{aligned} y &= y_F\ ;\ P \geq P_0 \\ P &= P_0\ ;\ y < y_F \end{aligned} \qquad (17)$$

Variables:

y = real output or income—the return on wealth
P = price level
y_F = full employment output
P_0 = current price level

In this expanded Keynesian-like model, market rates of interest on private securities can be affected by expenditures or by aggregate supply conditions and *vice versa*. If planned expenditure falls as a function of the rate of interest on private securities, and if there are no

[9] Except for the supply of high-powered money, it is assumed that supplies and demands for financial assets are free of money illusion.

offsetting changes in the supplies and demands for financial assets, the interest rate would normally decline and pull the quantity of money down with it. An expansionary policy requires that policy-controlled variables change so that the rate falls more and money less than otherwise.

In the context of this expanded model, neither the quantity of money nor the rate of interest on private securities need be a correct indicator of the expansionary or contractionary influence of monetary policy. Despite an increase in high-powered money, the money supply may decline as the result of a decline in the rate of interest on private securities, and, as Gramley and Chase point out, as the result of a decrease in the private security rate relative to the rate of interest on time deposits, if time deposits are good substitutes for private securities. Thus, the test of an expansionary monetary policy is not an expanding money supply as interest rates decline due to a decline in planned expenditure. But an expanding money supply *ceteris paribus* would provide some assurance that open market purchases by the central bank or reductions in required reserve ratios were exerting an expansionary effect. It is also true that the test of an expansionary monetary policy is not a decline in the private security rate of interest in the expanded model. The rate might decline as a result of a decline in planned spending. *Ceteris paribus,* the rate would fall further in the short run if the Federal Reserve bought securities or reduced required reserve ratios. Hence the test of an expansionary policy is again found in the changes in the variables that are controlled by the monetary authorities.

However, it is important to note that a decline in the rate of interest on private securities may give less information about the expansionary influence of monetary policy actions than an increase in the money supply does. In face of decline in planned expenditure and no change in other behavioral relations, an increase in the money supply would be a sign of an expansionary monetary policy. But a decline in the rate of interest on private securities might mask contractionary policy actions that hold rates from falling as far as they otherwise would.

It is necessary to measure the expansionary effect of monetary policy in terms of changes in policy-controlled variables. Thus, neither the quantity of money nor the rate of interest on private securities is a sure measure of the expansion of policy actions. A parallel argument applies to the measurement of contractionary monetary policy actions. If, as is apparently the case, Gramley and Chase measure the effect of policy actions on interest rates, the fact that they assume away any effect of planned spending on interest rates makes a mockery of their empirical conclusions about the procyclical variation in the quantity of money despite countercyclical policy actions. Their conclusions apply to an empirically unvalidated world where the variables that monetary policy actions influence can neither affect nor be affected by expenditure and output.

VI. *Can Monetary Policy Fool Some of the People All of the Time?*

A final comment is necessary with respect to the fact that the Gramley-Chase model is assumed to apply to a period so short that neither the quantity of output nor the price level can be affected by happenings in the financial sector of the economy. This typically Keynesian approach is capable of permitting Gramley and Chase to examine the interrelationships between various financial sector magnitudes. And under the assumptions that output and price level are given, it is true that monetary policy actions do affect the various interest rates in the money market. The authors explicitly recognize that links between financial

markets and markets for goods and services "are the heart of the process of monetary control," p. (1382). But over the long run as decision makers adjust their resources, expenditures, and asset holdings, it is reasonable to expect that they will take the actual and expected level of prices and interest rates into account. Thus, if the rate of expansion of high-powered money increases at full employment output, the associated increase in the price level might prompt decision makers to be willing to pay higher monetary interest because they expect a depreciation in the value of money or to demand higher interest on their monetary assets. If there were no distributional effects of the increase in high-powered money, then this would tend to raise nominal interest rates which is the reverse of the Keynesian and Gramley-Chase conclusion. Their conclusion is appropriate in the proper setting: There must be money illusion in the sense that real supply and demand functions depend on some nominal magnitudes such as the quantity of money, money wage rates, etc. This is a very reasonable assumption in the very short run and presumably for periods of substantial unemployment. But it may not make very good sense when output is close to capacity and/or in the very long run. Though interest rates doubtless play a significant role in transmitting the effects of changes in policy-controlled variables on magnitudes that matter, it does not follow that monetary policy can continue to affect interest rates as relative prices.

This means that monetary policy actions that are directed at reducing interest rates or preventing interest rates from rising during periods of high-level economic activity are eventually doomed to failure. If keeping rates lower than they would be otherwise requires increases in open market purchases and in high-powered money, then, at full employment, not only would prices tend to rise but so would interest rates, as lenders and borrowers awakened to the depreciation in the purchasing power of money. From a long-run point of view the linkage between financial and nonfinancial markets may indeed be only a veil, in which case policy actions may only affect the price level and nominal magnitudes. To the extent that decision makers are free of money illusion, persistent inflationary or deflationary policy actions would only have a short-run effect on output and relative prices. In time, policy actions would be reflected in nominal magnitudes alone with no long-run effect on real output or real interest rates. In these classical circumstances, any policy actions that attempt to lower interest rates or to maintain an unduly low rate would imply persistent inflation at an accelerating rate, if decision makers continued to react to rising prices by demanding or being willing to pay higher monetary rates of interest. Attempts to keep money interest rates unwarrantedly high would correspondingly cause persistent and decelerating deflation. Thus, in conclusion, the fact that Gramley and Chase ignore the effect of policy actions on the level of prices and expenditures limits the policy implications of their analysis to the very short run.

►FRANK C. JEN

Bank Lending To Small Business

I. *Introduction*

The problem of the availability of credit from different institutions to small businesses has been extensively studied since the discovery of the famous McMillan gap in England in 1931. Among the institutions examined, commercial banks have been singled out for particularly close scrutiny because of their well-known position as the primary source of short- and long-term credit for small business.

Although there is a consensus in the literature that many small businesses cannot obtain all the bank credit they want, particularly long-term credit, no agreement on the causes of this nonavailability of credit prevails. Many writers use the "credit-worthiness hypothesis"—that the primary underlying cause of nonavailability is the lack of credit-worthiness of small businesses—to explain the deficiency.[1] Others contend that the "inadequate bank hypothesis" is also applicable; that is, the inability of banks to meet all the legitimate needs of small business results in the credit deficiency.[2]

Of the many studies published in this

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[1] David P. Eastburn and John J. Balles, "Commercial Banks," *Financing Small Business*, Parts I and II, Washington: Government Printing Office, 1958; Federal Reserve System, Board of Governors, "Small Business Financing: Corporate Manufacturers," *Federal Reserve Bulletin*, January 1961, pp. 8-22.

[2] See, for example, Abraham D. Kaplan, *Small Business: Its Place and Problems*, New York: McGraw-Hill Book Company, 1948, pp. 141-144.

area, the more recent ones will be briefly reviewed here. Eastburn and Balles suggested that the credit-worthiness of a small business is the main determinant of its ability to obtain bank credit. They admitted, however, that the conclusion should be interpreted with care, because it was derived from a survey of bankers and, like any opinion survey, "the answers can be influenced by subjective value judgments and by a desire to tell interviewers what the respondents themselves would like to believe is the case."[3] The Federal Reserve Board, in an objective and comprehensive study, collected the financing experience and the financial statements of many small firms in order to distinguish the characteristics of firms "satisfied" with their financing experience from the "unsatisfied" ones.[4] They found that the "satisfied" group showed higher profitability, owners equity, and liquidity than did the "unsatisfied" group. However, because the Board measures "satisfaction" according to the feeling of the firms under survey, its conclusion is subject to the same limitation applicable to that of Eastburn and Balles.[5] In addition, financial ratios used to measure the credit-worthiness of a firm are tabulated separately and independently from "satisfaction," with the result that the simultaneous influence of all financial ratios of the firm on "satisfaction" is not studied.

This study seeks to overcome some of the limitations discussed above. The degree of availability of a firm's short-term bank credit will be defined according to its actual observable financing experience for 1955-60. The firm's financial ratios and other variables for 1954-59 will be used to measure the firm's level of credit risk. Regression analysis will then be applied: (1) to test the applicability of the credit-worthiness hypothesis to the availability of short-term bank credit, and (2) to determine simultaneously the principal factors affecting the level of a firm's credit risk.[6] The data used in this study include financing experience for the years 1955-60 and financial statements for the years 1954-59 for 115 "small" manufacturing corporations in Wisconsin.[7]

II. *The Analytical Framework*

To facilitate a quantitative evaluation of the credit-worthiness hypothesis, we may state this hypothesis as: The probability (P) of a firm having 100 percent

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[3] David P. Eastburn, and John J. Balles, *op. cit.*, p. 397.

[4] "Small Business Financing: Corporate Manufacturers," *op. cit.*

[5] The exact wording used by the Federal Reserve Board to measure satisfaction is also incorporated into the questionnaire as the second part of question 4 [See Appendix]. It is observed that many firms leave this part unanswered even though they answer a more objective question: "Since January 1, 1955, did your company take all the merchandise and equipment discounts offered by suppliers?" For a thorough discussion, see my study, "The Determinants of the Degree of Insufficiency of Bank Credit to Small Business," Unpublished Doctoral Dissertation, University of Wisconsin, 1963, pp. 87-91.

[6] Short-term bank credit is defined as bank credit maturing in one year or less. Loans drawn under a line of credit are also considered as short-term loans.

[7] Data on financing experience were collected by mail survey (see Appendix). For various reasons, less than 6 years of financial data are available for a few firms. In such cases, only firms for which financial statements for three years or more could be obtained are used in this study. There were 115 firms remaining from a sample of 443 firms, after elimination of firms which had not borrowed on a short-term basis from a bank or for which the available data were deemed inadequate. Manufacturers having between 4 and 500 employees in March 1958 are considered as "small" in this study. This definition closely approximates that of the Small Business Administration. For further details, see Jen, *op. cit.*, pp. 71-72.

availability of short-term bank credit (the term is to be more precisely defined below) is a linear combination of explanatory variables representing factors affecting the level of credit risk of a firm.[8]

The explanatory variables used in the study and their measurements may be listed as follows:

(1) RA, rate of return on assets = the average of the annual rate of return on net total assets for the period.

(2) ΔRA, growth of rate of return = the coefficient of the simple linear trend of the rate of return on assets during the period.

(3) CR, current ratio = the average of the annual current ratio for the period.

(4) DA, debt-assets ratio = the average of the annual debt-assets ratio during the period. Short-term debt is included as part of the total debt.

(5) ΔDA, growth of debt-assets ratio = the coefficient of the simple linear trend of the annual debt-assets ratio during the period.

(6) Log TA, size of the firm = the average of the logarithmic value of total net assets for the period.

(7) ΔLog TA, growth of total assets = the coefficient of the simple linear trend of size of the firm during the period.

(8) LFA, level of fixed assets
$= \sum_{t=1}^{n} FA_t / \sum_{t=1}^{n} TA_t$

(9) LRV, levels of accounts receivable and inventory
$= \sum_{t=1}^{n} (AR_t + INV_t) / \sum_{t=1}^{n} TA_t$
(Where FA_t, TA_t, AR_t and INV_t are the net fixed assets, net total assets, net accounts receivable, and net inventory, respectively, all at the end of the t-th year, and n is the number of years.)

Variables 1 and 2 are used to measure the expected profitability of a firm, variable 3, expected liquidity, and variables 4 and 5, expected solvency.[9] These three attributes are traditionally regarded as the principal determinants of a firm's level of credit risk. Variables 6 through 9 repre-

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[8] In symbolic form, the general equation used in this study is:

$P = b_o + b_1 x_1 + b_2 x_2 + \cdots + b_k x_k$

where P has a value of 1 for firms having 100 percent availability and 0 otherwise, x's are factors affecting the level of credit risk of a firm, b's are the regression coefficients.

The linear probability function was used to estimate the coefficients. The estimated P derived from such an equation can be interpreted as the probability of firms having 100 percent availability as a function of the explanatory variables. However, significant statements and interpretations using a linear probability function are subject to qualifications because the estimated P is not necessarily bounded by 0 and 1, heteroscedasticity exists, and the error term is not normally distributed. See A. S. Goldberger, *Econometric Theory*, New York: John Wiley and Sons, 1964.

[9] Return-on-equity is not used to measure profitability because many firms have negative equities.

The Federal Reserve Board used quick ratio instead of current ratio as a measure of liquidity. It appears reasonable, however, to assume that these two ratios are highly correlated.

It is suspected that a few of the firms include part of their long-term debt in their notes and accounts payable with the result that current liability is inflated and that current ratio has a downward bias. The effect of such bias is hard to evaluate though it is not expected to be strong enough to influence the regression result.

In the original study, instability of the rate of return on total assets was also used as an additional variable measuring the profitability and solvency of a firm. The coefficient of this variable, however, has never had a t-ratio greater than one or a stable sign. It is therefore hypothesized that instability of earnings has no effect on availability, and is therefore dropped from the regression equation as an explanatory variable. See Jen, *op. cit.*, pp. 96, 126-129.

sent other attributes. They are included as control variables and also for testing hypotheses associated with them.

For the measurement of the dependent variable, a firm is considered as having 100 percent availability and therefore assigned a value of 1 if it has the following financing experience for the period 1955-60:

(1) Its applications for short- and long-term bank credit had always been accepted by its bank.

(2) It had taken all the merchandise and equipment discounts offered by its suppliers.

(3) It had not borrowed from its owners, suppliers, finance companies, or the Small Business Administration.

A firm that meets these three criteria would not have had to resort to borrowing from sources generally considered as more expensive than banks. Firms not meeting these criteria are considered as not having 100 percent availability and are, therefore, assigned a value of 0.[10]

To insure as much comparability in financial ratios between firms as possible, the sample firms were divided into low- and high-capitalization groups, following the classifications established by the Federal Reserve Board.[11] The general conclusions reached in this study are based on an analysis of these two sub-samples.

III. *The Hypotheses and the Empirical Results*

Before interpreting the overall regression result, we will examine the relationship between the liquidity variable, CR, and the solvency variable DA. Both are popular measures of the level of credit risk of a firm and are found by the Federal Reserve to have affected the degree of satisfaction of small business toward bank lending.[12] Nevertheless, it is hypothesized that the effect of the liquidity variable on credit risk and availability is negligible when the solvency variable is also included in the equation. The reason is that a heavily debt-laden firm has to have high current liabilities or low current assets because of the persistent financial pressures, even if the policy might be detrimental to the firm's operations. On the other hand, a firm having little debt can generally afford to maintain high current assets and low current liabilities and will generally do so because of its beneficial effect on operations.[13] Hence,

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[10] Nearly all firms in the "not having 100 percent availability" category reported that they had not taken advantage of all the suppliers' discounts. Therefore, this characteristic can be regarded as the dominant one that distinguishes firms "having 100 percent availability" from those "not having 100 percent availability." The latter also attributed the reason for not taking all discounts to the fact that they could not obtain loans in a sufficient amount from banks or other institutions. Seven of them, however, reported that the cost of suppliers' credit is cheaper than that from other sources. If these seven firms were eliminated from the sample, the general conclusions of this study would remain unchanged, because of the similar pattern in estimated parameters and t-ratios.

[11] The low-capitalization group consists of Food, Liquor, Tobacco, Textile, Apparel, Leather, Furniture and Fixtures, Printing, Lumber and Wood, Stone, Clay and Glass, Instruments and others. The high-capitalization group consists of: Machinery, Chemicals, Petroleum, Paper, Primary and Fabricated Metals, Rubber and Plastic, and Transportation Equipment. See "Small Business Financing: Corporate Manufacturers," *op. cit.*, pp. 8-22.

[12] *Ibid.*, pp. 10-12.

[13] Even if a low-debt firm does not have a high liquidity, it can always borrow from the banks to improve liquidity when it can provide the lending bank with virtually iron-clad protection against ultimate loss. On the other hand, a high-debt firm with a high liquidity will probably see its high liquidity melted away very quickly because of the necessity to reduce its debts. See Albert M. Wojnilower, *The Quality of Bank Loans*, New York: National Bureau of Economic Research, 1962.

TABLE 1

Estimated Relationships Between Availability of Short-Term Bank Credit and Level of Credit Risk

Estimated Coefficients	Low Capitalization			High Capitalization		
	All Variables	All except DA	All except CR	All Variables	All except DA	All except CR
Constant	0.239	−0.126	0.414	0.123	−0.163	0.069
RA	0.018	0.028	0.016	0.030	0.032	0.030
	(2.339)*	(3.857)	(2.082)	(2.534)	(2.737)	(2.572)
ΔRA	0.038	0.035	0.037	0.046	0.047	0.046
	(2.435)	(2.139)	(2.456)	(1.30?)	(1.327)	(1.323)
CR	0.017	0.037		−0.00o	0.038	
	(1.200)	(3.089)		(0.120)	(0.785)	
DA	−0.008		−0.010	−0.005		−0.005
	(2.501)		(3.883)	(0.981)		(1.267)
ΔDA	−0.006	−0.006	−0.004	−0.015	−0.013	−0.014
	(0.511)	(0.469)	(0.378)	(0.608)	(0.538)	(0.604)
log TA	0.016	0.020	0.015	0.110	0.139	0.115
	(1.866)	(2.207)	(1.763)	(0.757)	(0.979)	(0.826)
Δlog TA	−0.806	−1.876	−0.573	−4.583	−4.779	−4.545
	(0.763)	(1.861)	(0.550)	(1.587)	(1.660)	(1.605)
LFA	−0.227	−0.408	−0.275	−0.404	−0.567	−0.399
	(0.685)	(1.214)	(0.834)	(0.549)	(0.790)	(0.550)
LRV	0.257	0.052	0.302	0.273	0.056	0.262
	(0.826)	(0.166)	(0.973)	(0.382)	(0.082)	(0.375)
R	0.770†	0.741†	0.764†	0.613§	0.599§	0.613‡
S. E.	0.339	0.353	0.340	0.419	0.418	0.413
N	69	69	69	46	46	46

* Figures in parenthesis are T-ratios.
† Significant at 0.5 percent by F Test.
‡ Significant at 2½ percent by F Test.
§ Significant at 5 percent by F Test.

if both CR and DA are included in one equation, we would expect DA to be a more effective variable to explain creditworthiness and, therefore, availability. CR thus becomes redundant, rather than supplementary, to DA in the equation.

To test this hypothesis, three equations were computed for each model. The equations contain respectively: (1) all variables, (2) all variables except DA; and (3) all variables except CR. If the hypothesis is correct, these results for each model should be observed:

(1) When only DA or CR is included in the equation with other variables, a smaller adjusted R^2 will be observed for the equation "all except DA" than for "all except CR." The coefficients for both DA and CR should behave as normally expected, i.e., negative for the former and positive for the latter.

(2) When both DA and CR are included in one equation with other variables, the adjusted R^2 should at most be quite close to that of the equation "all except CR." DA should still have a negative coefficient. Its t-ratio should, however, be lower than the level obtained when DA is alone in the equation. CR should have a coefficient not significantly different from zero, and its sign may actually be changed to negative if DA has "overrobbed" CR of its correlation with availability.

Table 1 gives the empirical estimates of

TABLE 2

T-ratios and Adjusted R^2 of Debt-Assets and Current Ratios in Three Equations

	Variables in the Equation		
	All Variables	All Except DA	All Except CR
Low Capitalization Model			
CR	+1.200*	+3.089	
DA	−2.501		−3.883
Adj. R^2	0.531	0.490	0.527
High Capitalization Model			
CR	−0.120	+0.785	
DA	−0.981		−1.267
Adj. R^2	0.220	0.223	0.237

* Signs of T-ratios correspond to signs of the partial regression coefficients.

the coefficients of the three equations for all variables in both models. Table 2 summarizes the t-ratios for DA and CR and the adjusted R^2 for these three equations. Although CR can be regarded as a good proxy for DA in view of its performance in the model "all except DA," the evidence supports the hypothesis that DA is an effective variable to explain availability, while CR is a redundant one.[14] Hence, the equation "all except CR" will be regarded as the final equation for both models. Interpretation of other coefficients and their significance levels will be based on this equation.

The overall result suggests that the level of credit risk of a firm affects the availability of short-term bank credit because the coefficient of multiple correlation is found to be significant at 2½ percent for both models. In other words, the credit-worthiness hypothesis appears meaningful in the explanation of availability.

In regard to the principal determinants of credit risk, the basic and supplementary variables measuring the expected profitability, RA and ΔRA, have positive coefficients with reasonably high t-ratios in both models. The evidence, therefore, supports the hypothesis that the higher is the expected profitability of a firm, the lower is the credit risk, and the higher is the degree of availability of short-term bank credit to the firm.

The basic variable measuring the expected liquidity, CR, is a proxy for the basic solvency variable, DA, as previously explained. The latter does have negative coefficients as expected, though the t-ratio in one model is not very high. Hence, the expected solvency of a firm is also an important measure of the level of credit risk of a firm, which, in turn, affects availability.

ΔDA is included as a supplement to DA to measure expected solvency. Following Merwin's finding that one of the symptoms of a failing firm is a decreasing net worth-debt ratio, one can expect a negative correlation between ΔDA and availability.[15] However, this relationship does not have to hold since an increase in DA over time can be the result of a large expansion in assets or a negative RA over the period. In the former case, the increase does not signify a deterioration in solvency. In the latter case, RA has been separately included in the equation. Hence, one may hypothesize that the estimated coefficient for ΔDA should not be significantly different from zero.

Empirically, the coefficients are negative, but the t-ratios are small in both models. The evidence can therefore be regarded as consistent with our hypothesis. In other words, while Merwin's findings that a financially deteriorating firm generally has a positive ΔDA is true, the converse does not necessarily hold.

[14] Table 3 further tabulates CR for each firm against DA for both models. The high-correlated pattern also supports the hypothesis suggested in the text. Note that the problem of multicollinearity is not an important issue here because the multicollinearity is predicted on theoretical grounds.

[15] Charles L. Merwin, *Financing Small Corporations in Five Manufacturing Industries, 1926-36,* New York: National Bureau of Economic Research, 1942.

Note that the coefficients for log TA weakly support the hypothesis that size per se is negatively correlated with credit risk and, therefore, positively correlated with degree of availability. The coefficients for Δlog TA also perform as expected; that is, when other variables are held constant, funds are less available to firms having a faster growth in total assets.

The variables LFA and LRV are introduced mainly as control variables to improve homogeneity between sample firms in a broad industry group. One can also infer from the coefficients that bankers prefer to lend short-term funds to firms with a high percentage of assets invested in accounts receivable and inventories.

Table 3

Relationship between Current Ratio and Debt-Assets Ratio

Debt-Assets Ratio (Percent)	Current Ratio				
	Under 1	1-2	2-3	3-4	Over 4
	Low Capitalization Model				
Under 20		1		1	5
20 to 40	2	7	8	7	8
40 to 60	3	8	4		
60 to 80	7	3		1	
Over 80	3	1			
	High Capitalization Model				
Under 20				1	3
20 to 40		2	10	5	1
40 to 60	5	9	1		1
60 to 80	2	3	2		
Over 80	1				

IV. *Conclusion*

From the observable financing experience of a firm, the degree of availability of short-term bank credit to a firm has been defined. Different financial ratios and other attributes of the firm measuring its level to credit risk are further used as variables explaining the degree of availability.

The results of the study suggest that, on the average, the level of credit risk of a firm affects the degree of availability of short-term bank credit to a firm. Specifically, variables significantly affecting the level of credit risk of a firm for short-term bank loans include profitability measured by RA and ΔRA, and solvency measured by DA. The size of a firm, and the growth rate of its total assets, log TA and Δlog TA respectively, also weakly affect its credit risk and, therefore, the degree of availability.[16] However, the supplementary solvency variable, ΔDA, is found to be uncorrelated with availability and creditworthiness, while the liquidity variable, CR, is at best a proxy for solvency. Hence, one can conclude that the principal determinants of creditworthiness are profitability and solvency, instead of the traditional triumvirate–profitability, solvency, and liquidity.

One can also ask the question what should be done to help small businesses with high credit risks. Establishments of such financial institutions as the Small Business Administration and Small Business Investment Company are generally predicated on the assumption that banks are inadequate to serve the financial needs of small businesses. If, however, many small businesses suffer from credit nonavailability because they are not creditworthy, additional financial resources may not be helpful to them at all unless management counseling services are also available and used by these firms. Thus, the Small Business Administration should be encouraged to enlarge its recently established program of providing low-cost management counseling service to small businesses.[17] Indeed, it appears that the

[16] Preliminary studies by the author using similar analytical procedures suggested that the principal determinants of the level of credit risk of a firm for long-term bank loans are by and large similar to that for short-term loans.

[17] See Jen, *op. cit.*, pp. 175-182, for a more extensive discussion of this subject.

Small Business Administration is correct in its insistence that in some cases, a small firm must allow its operations to be examined closely by an experienced consultant before any additional credit may be granted to it.

Appendix

Extract of Questionnaire Sent to Sample Firms

1. For what purposes were these outside funds needed?
   a. Acquiring or altering buildings, equipment or other fixed assets _____
   b. Purchasing goods, providing credit to customers, or meeting cash or other working capital requirements _____
   c. Retiring or renewing outstanding loans or other forms of indebtedness _____
   d. Other purposes (please specify) _____ _____

2. What kinds of outside funds were sought and either obtained or not obtained since the beginning of 1955?

	Sought but not obtained	Obtained
(i) Unsecured loans with an original maturity of one year or less (includes loans that must be paid off each year)		
a. Bank line of credit	_____	_____
b. Other short-term loans	_____	_____
(ii) Unsecured loans with an original maturity of more than one year but:		
a. less than five years	_____	_____
b. five years or more	_____	_____
(iii) Loans guaranteed by another party	_____	_____
(iv) Loans secured by a mortgage or other collateral	_____	_____
(v) Sales of ownership or partnership shares	_____	_____
(vi) Incurring bonded debt	_____	_____

3. If, since the beginning of 1955, your company tried to obtain longer term funds by mortgaging specific assets, by pledging other collateral or by guarantees, please check the groups from which such funds were obtained or sought but not obtained (longer term here refers to longer than one year).

	Sought but not obtained	Obtained
a. Banks	_____	_____
b. Finance Companies	_____	_____
c. Investment or insurance companies, pension funds or similar sources	_____	_____
d. Suppliers or customers	_____	_____
e. Other nonfinancial businesses	_____	_____
f. Shareholders, owners, or officers	_____	_____
g. Former owner	_____	_____
h. Others (please specify) _____	_____	_____

4. If, since the beginning of 1955, your company sought longer term unsecured loans,

please check the groups from whom they were obtained or sought but not obtained (Longer term here refers to longer than one year.)

	Sought but not obtained	Obtained
a. Banks	____	____
b. Finance companies	____	____
c. Investment or insurance companies, pension funds, or similar sources	____	____
d. Suppliers or customers	____	____
e. Other nonfinancial business	____	____
f. Shareholders, owners, or officers	____	____
g. Former owner	____	____
h. Others (please specify) _____	____	____

If such funds were obtained from any source, were the arrangements satisfactory to you with regard to:

	Yes	No
1. the amount of credit obtained	____	____
2. the interest rates and other charges on which the credit was obtained	____	____
3. the dates of maturity, the required schedule of payments and other features of the loan agreement	____	____

5. Since January 1, 1955, did your company take all of the merchandise and equipment discounts offered by suppliers?

Yes	No
____	____

If no: Why did your company not borrow from banks or other financial institutions so that you could take advantage of these discounts? (Please check all reasons that apply)

a. Could not obtain loans from banks or other financial institutions	
1. at all	____
2. in a sufficient amount	____
3. for the purposes required	____
b. It was more convenient to use credit from the suppliers	____
c. Credit from the suppliers was cheaper than credit from banks or other financial institutions	____
d. In order to keep on good relations with the suppliers	____
e. In order to establish a credit rating	____
f. Other (please specify) _____	____

►RICHARD H. PETTWAY

Interest Rates on Direct Leases and Secured Term Loans

During the period since its inception in March 1963, direct lease financing by national banks has grown rapidly. As of October 1965, it reached a level of $235 million. The direct leasing privilege reportedly was one reason behind Chase Manhattan's decision to change its status to a national bank.[1]

Today, national banks in 37 states have entered into direct lease agreements. California banks are the most active in this respect, accounting for about 44 percent, or $104 million, of the direct leasing volume in October 1965. Yet, in spite of the great rise in the volume of direct leasing, it represents only .2 percent of the October 1965 loan and discount volume.

In an issue of *The National Banking Review*, Eugene F. Brigham examined the role of banks in the field of equipment leasing.[2] Brigham found that there was a ½ of 1 percent to 2 percent differential between the implied interest rate of a lease and the interest rate of a comparable term loan. He attributed the higher implied interest rates found on leases to an imperfect market situation. "If this surmise is correct, then we may expect funds to move from the term loan market into the leasing market [with bank entry], thus driving term loan rates up . . . and

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[1] *Business Week*, July 24, 1965, and *The Wall Street Journal*, September 23, 1965.

[2] "The Impact of Bank Entry on Market Conditions in the Equipment Leasing Industry," *The National Banking Review*, 2, September 1964, p. 11.

lease rates down."[3] In other words, he felt that bank entry into the leasing market would cause the implied interest rate on a lease to approach the interest rate on a comparable term loan.

The purpose of this article is to apply the findings of a survey conducted by the author to Brigham's hypothesis, and to determine the effect of residual value and investment tax credit upon direct lease profitability. To test Brigham's hypothesis, the author devised a questionnaire (see Appendix) to compare the implied interest rates required for a direct lease and for a comparable secured term loan. In addition, the questionnaire attempts to determine the effect of potential residual value and the influence of the investment tax credit kept by the bank.

The questionnaire contained four basic cases, three were direct leases and one was a secured term loan. Great care was taken to establish the normal lease case, Case A, with the same financial characteristics as the secured term loan case, Case D. The cost of the equipment ($10,000), the length of the contracts (60 months), the life of the equipment (72 months), and the normal borrowing rate for the 5-year maturity (½ of 1 percent per month on the unpaid balance) were the same, and there was 100 percent financing in both cases. The banks were asked to evaluate the financial characteristics of Case A and Case D and to indicate the amount of monthly payment required for the hypothetical financing.

The questionnaire was also constructed to determine the influence of residual value and investment tax credit. The same basic financial characteristics were included in Cases B and C, but Case B involved a potential residual value of $1,000 and Case C contained an investment tax credit of $233.33 kept by the bank.

By comparing the implied interest rates of a similar lease and term loan, it can be ascertained whether the banks are adjusting the yields of leases down to the yields on comparable term loans. Also, the influence of additional profitability due to the residual value and to the investment tax credit may be determined. If the bank set the implied interest rate of the lease comparable to that on the term loan, Professor Brigham's hypothesis is valid. If the implied interest rates are not adjusted when the bank receives additional profit from residual value or investment tax credit, the rate of return that a bank receives from a lease is materially higher than that from a comparable secured term loan.

The banks that were chosen for the survey represented a cross-section of the direct leasing banks in the country. The survey was designed to include the larger as well as some of the smaller leasing banks. The basic "universe" of leasing banks from which these banks were chosen had been previously determined by the author through personal correspondence with banks selected in the states that exhibited at least one million dollars worth of leasing volume.

The questionnaire was sent to 13 national banks.[4] Of these banks, ten answered the questionnaire; six in detail, and four in general terms. Although the survey was not large, meaningful conclusions may be drawn, since the "universe" itself is quite small, and since the respondents included the most prominent banks.

For the six banks which specified the amount of monthly payment that would

[3] Ibid, pp. 24-25.

[4] The 13 banks were: The Bank of America, The First National Bank of Chicago, The First National Bank and Trust Company of Oklahoma City, The First National Bank of Atlanta, National State Bank of Newark, Mellon National Bank and Trust Company, Manufacturers National Bank of Detroit, Franklin National Bank of New York, The First National Bank of Saint Paul, The National Bank of Detroit, The First National City Bank of New York, The Security First National Bank of Los Angeles, and The Chase Manhattan Bank of New York.

Table 1

Direct Leasing Since 1963, National Banks
(Millions of dollars)

Dates	Total Volume	California Volume	California Volume as a Percentage of Total	Number of States	Total Loans	Direct Leases as a Percentage of Loans
October 30, 1963	5	1	20	19	81,642	.0061
December 20, 1963	24	19	79	23	83,386	.0276
April 15, 1964	36	22	61	28	85,126	.0423
June 30, 1964	47	33	70	29	88,519	.0531
November 1, 1964	57	37	65	31	90,195	.0632
December 31, 1964	81	49	60	31	95,577	.0847
April 26, 1965	116	62	53	32	97,853	.1185
October 13, 1965	235	104	44	37	111,349	.2110

Source: "Selected Statistical Data, "The National Banking Review, 1, December 1963, p. 284; 1, March 1964, p. 444; 2, September 1964, p. 113; 2, December 1964, p. 281; 2, June 1965, p. 593; 3, September 1965, p. 127; 3, December 1965, p. 279.

Table 2

	Case A		Case B		Case C		Case D	
BANK	MONTHLY PAYMENT	IMPLIED INTEREST RATE (Percent)	MONTHLY PAYMENT	IMPLIED INTEREST RATE (Percent)	MONTHLY PAYMENT	IMPLIED INTEREST RATE (Percent)	MONTHLY PAYMENT	IMPLIED INTEREST RATE (Percent)
1	199.13	7.240	199.13	7.240	196.86	6.759	195.66	6.509
2	200.00	7.429	200.00	7.424	200.00	7.424	208.33	9.157
3	216.70	10.861	208.33	9.157	204.44	8.353	193.33	6.000
4	193.33	6.000	193.33	6.000	188.33	5.026	193.33	6.000
5	192.75	5.877	191.01	5.509	187.57	4.753	193.33	6.000
6	198.02	7.002	198.02	7.002	189.37	5.145	193.33	6.000

be required in the four hypothetical cases, each of the amounts was translated into an implied nominal interest rate per year compounded monthly. The results are shown in Table 2.

By comparing the implied interest rate on a direct lease, Case A, with the interest rate on a comparable secured term loan, Case D, the validity of Professor Brigham's statement that bank entry into the leasing market will cause the interest rates on direct leases to approach interest rates on term loans may be tested. If the same bank charges similar interest rates on both a term loan and a direct lease, then his contention is valid. Of the six banks which answered the questionnaire in detail, only one bank charged exactly the same interest rate for a secured term loan as it did for a comparable direct lease. In a letter to the author, the responding officer of this bank stated that "we consider a leasing situation identical to a loan." Of the other five banks, three indicated that the interest rate on the lease, Case A, would have to be higher than on the comparable secured term loan. Two banks stated that they would

require lower interest rates on a direct lease than on a secured term loan. One of the general respondents indicated that he believed that the interest rates on both Case A and Case D would be equal.

Thus, it is believed that bank entry into the leasing market has caused the interest rates on a direct lease to be closer, although not equal at all banks, to the interest rates on a comparable term loan than was the case in the period described by Brigham before bank entry. Thus, after three years of direct leasing, Professor Brigham's hypothesis—that the imperfect market that caused the interest rates of a direct lease to be higher than that of a comparable secured term loan would be eliminated by bank entry into the leasing market—has been partially substantiated.[5]

The elements of lease profitability, residual values and investment tax credit, may affect the implied interest rate of a direct lease. If the banks do not adjust the implied interest rates to reflect the elements of profitability, they may be able to make additional profit by leasing rather than by lending. The survey found that generally banks do not adjust the implied interest rates for the influence of residual value. In Case B, which had a residual value of $1,000 added, four of the six banks showed the implied interest rate as being the same as Case A, which had no residual value. Thus, most of the banks were not giving any consideration to the additional profitability that the $1,000 residual value would provide. One of the bankers explained why there was no change in his calculations for the monthly payments in Case B by the statement: "Should there be any residual values, we would look to them as an additional kicker." The author concluded that since all but two of the respondent bankers did not give consideration to residual value in the implied interest rate calculations, banks generally may make additional profit by leasing equipment that has a significant residual value rather than by lending the purchase price under a secured term loan at the same implied interest rate.

The effect of the investment tax credit of $233.33 was taken into consideration in the calculation of the monthly payments in Case C by all but one of the banks that answered the questionnaire. The adjustments made by the five other banks were all in the same direction, though they were of different magnitudes. The average adjustment was 1.2 percent, with a range of from .074 percent to 2.5 percent. It is important to note that the influence of the investment credit was reflected in lower implied interest rates for the lease plan. In other words, a bank would not receive additional profitability by leasing and keeping the investment credit than it would receive by making a term loan and thus giving the credit to the borrower. This contention was substantiated by a letter from a banker who wrote,"In every case we have passed on the investment credit either directly as in Case A and B, or through a reduced payment, as in Case C."

In summary, it appears that the implied interest rates of a comparable secured term loan and a direct lease at a 5-year maturity made by the same bank have become more similar. Thus, with bank entry into the leasing market, the implied interest rates on leases have dropped to approach those on compar-

[5] The average of the seven interest rates for Case A (placing the general answer at 6.00 percent) is 7.20 percent. The average of the Case D interest rates is 6.52 percent. Therefore, on average, there appears to remain a ½ of 1 percent difference between lease and term loan rates. But it must be remembered that this average has a dispersion above and below the interest rate on secured term loans, whereas Brigham's discussion revealed that the dispersion was from ½ to 2 percent above the relevant term loan rate. See Brigham, *op. cit.*, p. 23.

able term loans, partially substantiating Brigham's hypothesis. In addition, since the implied interest rate was not changed by most banks when the lease plan contained the possibility of a residual value, direct bank leasing with a significant residual value will be more profitable to a bank than term lending. Finally, since the implied interest rate charged by all banks, except one, was adjusted downward to offset the profitability of the investment tax credit kept by the bank, the investment tax credit has little influence on the bank's profitability under either a direct lease or a secured term loan.

Appendix: Lease-Financing Questionnaire

Would you please indicate the monthly payments for the following cases. All the hypothetical cases apply to the same firm whose normal bank borrowing rate on a secured equipment loan for five years is *½ of 1 percent per month on the unpaid balance.*

LEASE PLANS

CASE A

Total cost of equipment	$10,000.00	
Life of lease	60 months	$ _____ monthly payment
Life of equipment	72 months	
Potential residual value	none	for 60 months with 100 percent financing.
Value of Investment Tax Credit passed to **Lessee** (7% of ⅓ of cost)	$ 233.33	

CASE B

Total cost of equipment	$10,000.00	
Life of lease	60 months	
Life of equipment	72 months	$ _____ monthly payment
Potential residual value	$ 1,000.00	
Value of Investment Tax Credit passed to **Lessee**	$ 233.33	for 60 months with 100 percent financing.

CASE C

Total cost of equipment	$10,000.00	
Life of lease	60 months	$ _____ monthly payment
Life of equipment	72 months	
Potential residual value	none	for 60 months with 100 percent financing.
Value of Investment Tax Credit **KEPT BY THE BANK**	$ 233.33	

SECURED LOAN PLAN

CASE D

Total cost of equipment	$10,000.00	$ _____ monthly payment
Life of loan	60 months	
Life of equipment	72 months	for 60 months with 100 percent financing.
Normal Borrowing Rate	½% per month on the unpaid balance	

Near Banks and Local Savings

►GEORGE G. KAUFMAN and CYNTHIA M. LATTA

A recent study of banking structure and performance in the State of Iowa conducted by one of the authors found that time deposits at commercial banks varied inversely with the importance of savings and loan associations in the area.[1] Time deposits were lowest as a proportion of total bank deposits in counties in which savings and loan associations were most significant. This finding suggests that savers tend to divide their liquid savings between the two types of institutions. The study could not, however, gauge whether the savers divided their funds out of a given pool of savings or whether the presence of savings and loan associations enlarged the available pool of savings. The purpose of the present study is to explore the question of whether the presence of near banks—both savings and loan associations and mutual savings banks—increases overall liquid savings in a community over what they would have been in the absence of such institutions. Little empirical evidence bearing on this issue is available. An exception is a study by Professors Schweiger and McGee which found savings to be a higher proportion of income in large metropolitan areas which have mutual savings banks than in similar areas which do not.[2] This brief study conducts

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[1] George G. Kaufman "Bank Market Structure and Performance: The Evidence from Iowa," *Southern Economic Journal*, XXXII, April 1966, 429-439.

[2] Irving Schweiger and John S. McGee, *Chicago Banking*, Chicago: Graduate School of Business, University of Chicago, 1961, p. 50.

further empirical tests on the relationship between near banks and local liquid savings.

Liquid savings in an area are generally considered a function of income and/or wealth in the area, a spectrum of interest yields within and without the area, the structure of financial institutions, and a large number of other economic and sociological forces.[3] Near banks are typically assumed both to intensify the competition for savings, thereby raising the rate of return on savings, and to increase the convenience of saving. These factors, in turn, are believed to enlarge the pool of savings in a community by encouraging additional savings and attracting existing savings which otherwise would have been placed outside the community or channeled into such assets as life insurance and stocks. On the other hand, near banks may have little, if any, effect on the overall pool of savings. They may only substitute for commercial banks, so that the number of banks would be less, or cause the existing pool of savings to be spread over a larger number of financial institutions, so that all institutions would be smaller.

The relationship between near banks and local savings is tested by multiple regression analysis. Log linear cross-section regressions are estimated for local liquid savings by state (48) and by Iowa county (99). The Iowa regressions are computed because these data both suggested the study initially and were already compiled. Observations for states are used because state data are readily available and because state laws determine the legal structure of financial institutions. The two sets of independent observations serve to provide a check on the reliability of the results. Another check is introduced by estimating each of the regressions for more than one year. State regressions are computed separately for 1950, 1955, and 1960, while the Iowa regressions are estimated for the years 1959 and 1960.[4] Local savings are defined to include time deposits at commercial banks, deposits at mutual savings banks, and share capital at savings and loan associations.[5] Savings may be considered either in the aggregate or per capita. In the absence of collinearity between population and the other explanatory variables, the same coefficients obtain. Because some collinearity may be expected, both aggregate and per capita savings are considered.

The importance of near banks is measured by the ratio of near bank deposits to total commercial bank deposits. In order to isolate the impact of near banks on the pool of local liquid savings, the influence of all other forces must be held constant. Consequently, two additional structure variables are specified in each equation. The number of commercial bank offices is specified to distinguish competition among commercial banks as an influence on liquid savings from competition between commercial banks and near banks. In the state regressions, a dummy variable is included to reflect differences in state legislation pertaining to bank branching. For Iowa, where full-service branch banking is effectively prohibited, the distance of the county from the nearest major financial center is specified instead as a measure of competition for savings from without the county.

All variables other than structure measures are classified as "demand" variables. Four demand variables are included in each regression: per capita income, percentage change in per capita income,

[3] Bruce C. Cohen and George G. Kaufman, "Factors Determining Deposit Growth by State: An Empirical Analysis," *Journal of Finance*, XX, March 1965, 59-70.

[4] Because data are not available for most of the nonstructure variables in Iowa for 1959, 1960 values are used for both years for these variables.

[5] There are no mutual savings banks in Iowa.

percentage change in population, and the ratio of nonagricultural activity to total activity.[6] The last variable is specified to summarize the industrial composition of the area. In the aggregate equations, population is also included as an explanatory variable. While these forces do not encompass all other factors affecting total savings, they may reasonably be assumed to be among the most important.

The estimated regressions yield similar and consistent results (see Tables 1 and 2). The complete regressions explain a greater proportion of the interarea variation in aggregate savings rather than in per capita savings, and among states rather than among Iowa counties. The three structure and five demand variables explain about 95 percent of the interstate variation in total savings and 85 percent of the Iowa intercounty variation. When deflated by population, the regressions explain 80 percent of the differences in per capita savings among states and 45 percent of the differences among Iowa counties.

The importance of near banks is significantly related with a positive coefficient to total liquid savings in all regressions at the .1 level and in all but one at the .05 level. The estimated elasticities are lower for counties than for states. A 1 percent increase in the importance of near banks is associated with only a .1 percent increase in savings per county compared with between a .25 and .40 percent increase in savings per state. The restriction of the county sample to Iowa, however, limits the significance that may be attached to this observation.

The number of bank offices bears a significant, positive relationship to local savings in Iowa, but not in the United States as a whole. Neither state branch banking legislation nor county distance from financial center is significant. Of the demand factors, per capita income and, when specified, population are consistently significant. Because a large degree of collinearity is present between the structure and demand variables, the distinct contribution of each on savings is difficult to evaluate.

The significant coefficients differ substantially from year to year only in the regression for state aggregate savings—the near bank coefficient is significantly greater in 1955 than in 1950. The similarity of the values of the significant coefficients over time, combined with the similar identification of significant variables for the United States and Iowa, indicates a high order of stability in the relationship between near banks and the pool of local savings. It is also of interest to note that almost the same estimates are obtained for the significant coefficients regardless of whether aggregate or per capita savings is the dependent variable. This implies that the regressions are homogeneous in population to the degree one.

These findings provide strong evidence that the local pool of liquid savings is significantly influenced by the relationship between commercial banks and near banks in the area. The greater the importance of near banks to commercial banks, the greater is the overall pool of savings in the area. Part of the enlarged local pool of savings may be attributed to new savings stemming from greater availability of savings facilities and increased competition among savings institutions, while the remainder of the enlargement may be attributed to a repatriation of current savings from outside the area and from other forms of savings. At the same time, however, near banks do draw some funds from commercial banks so that the overall volume of bank time deposits in the area will tend to diminish.

[6] Because of problems of data availability, slight differences exist in the specification of the same variable for states and counties. For example, permanent per capita personal income is specified for states and measured median family income for Iowa counties.

Table 1

Regression Results for 48 States

	S_1	s_2	s_3	d_1	d_2	d_3	d_4	d_5	R^2
1950									
Aggregate	.2663*	.4556*	.0399	.5629*	.7942	1.4246*	−1.0121	−.2791	.96
	(.0674)†	(.1750)	(.0476)	(.1778)	(.9338)	(.2711)	(1.2378)	(.1046)	
Per capita	.3294*	.0397	.0504		−.0813	1.8942*	.2061	−.0963	.83
	(.0661)	(.0477)	(.0503)		(.9161)	(.2235)	(1.2037)	(.0781)	
1955									
Aggregate	.4050*	.0386	.0348	.9866*	−.2429	1.4844*	−2.8018*	−.0495	.97
	(.0512)	(.1311)	(.0304)	(.1245)	(.5768)	(.2565)	(.7801)	(.0704)	
Per capita	.4047*	.0249	.0348		−.2727	1.4982*	−2.8110*	−.0452	.88
	(.0505)	(.0339)	(.0300)		(.4998)	(.2191)	(.7658)	(.0574)	
1960									
Aggregate	.3129*	.1934	−.0137	.8119*	−.0533	1.3253*	.1671	−.0779	.97
	(.0676)	(.1816)	(.0346)	(.1710)	(.7186)	(.2646)	(1.2334)	(.0830)	
Per capita	.3258*	.0024	−.0034		−.5775	1.4825*	.0461	−.0096	.78
	(.0667)	(.0358)	(.0333)		(.5393)	(.2232)	(1.2317)	(.0552)	

NOTES: * Significant at .05 level.
† Standard errors in parentheses.

Dependent Variable:

Time deposits at commercial banks plus deposits at mutual savings banks plus share capital at savings and loan associations

Independent Variables:

S_1—Ratio of near bank deposits (deposits at mutual savings banks plus savings and loan share capital) to total commercial bank deposits
s_2—Number of commercial banking offices
s_3—State branch banking legislation: 0-branching prohibited, 1-limited or statewide branching permitted
d_1—Population
d_2—Percent change in population from 5 years ago
d_3—Permanent per capita personal income
d_4—Percent change in permanent per capita personal income from 5 years ago
d_5—Farm income as a percent of personal income

Table 2

Regression Results for 99 Iowa Counties

	S'_1	s'_2	s'_3	d'_1	d'_2	d'_3	d'_4	d'_5	R^2
1959									
Aggregate	.0815*	.7098*	.0916	.7091*	1.4773	1.4092*	−.0703	.2434	.85
	(.0271)†	(.1679)	(.0596)	(.1964)	(1.0214)	(.4727)	(.5943)	(.6236)	
Per capita	.0776	.8569*	.1676		.5223	1.6183*	.3873	−.3272	.46
	(.0409)	(.2145)	(.0882)		(1.4226)	(.7173)	(.8956)	(.8072)	
1960									
Aggregate	.0962*	.7287*	.0898	.6766*	1.6129	1.2543*	.1106	.2239	.86
	(.0265)	(.1698)	(.0594)	(.1988)	(1.0131)	(.4703)	(.5979)	(.6214)	
Per capita	.0891*	.8625*	.1690		.6120	1.4525*	.5632	−.3797	.47
	(.0401)	(.2176)	(.0885)		(1.4105)	(.7207)	(.9118)	(.8233)	

NOTES: * Significant at .05 level.
† Standard errors in parentheses.

Dependent Variable:

Time deposits at commercial banks plus assets at savings and loan associations

Independent Variables:

S'_1—Ratio of savings and loan assets to total commercial bank deposits
s'_2—Number of commercial banking offices
s'_3—Distance from nearest financial center (Chicago, Des Moines, Milwaukee, Minneapolis, Omaha, St. Louis)
d'_1—Population
d'_2—Percent change in population from 1950-1960
d'_3—Median family income in 1960
d'_4—Percent change in median family income from 1950-1960
d'_5—Nonagricultural employment as a percent of total employment

Trade Credit and the Discriminatory Effects of Monetary Policy

►THOMAS MAYER

One of the answers to the charge that tight money discriminates against small firms is the argument that although small firms may have difficulty in borrowing from banks, they can obtain trade credit from their suppliers instead. According to Allan Meltzer, who is the main proponent of this argument: "[G]iven the magnitude and direction of the redistribution of the money stock which takes place through net receivables alone there is little evidence of the often cited 'discrimination' against small firms." [1] Casual observation suggests that this view has become widely accepted. In this note, I will suggest two major qualifications which render Meltzer's conclusion very doubtful.

First, granted that large firms lend to small firms through trade credit, the cost of such loans has to be considered: Insofar as trade credit means that buyers are not taking their cash discounts, it is a very expensive form of credit.[2] Cash

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[1] "Monetary Policy and the Trade Credit Practices of Business Firms," in Commission on Money and Credit, *Stabilization Policies*, Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1963, p. 494; see also his "Mercantile Credit, Monetary Policy and the Size of Firms," *Review of Economics and Statistics, XLII*, November 1960, 429-437.

[2] This point was raised by the Federal Reserve Bank of Kansas City:—"This conclusion does

discounts, which exist in most industries, usually vary from 1 to 3 percent, and on an annual basis, this is a high rate.[3] Thus, one business finance text gives the average rate on trade credit, expressed as an annual rate, as 24 to 36 percent.[4] In addition, failure to take the cash discount reflects unfavorably on a firm's credit standing, so that a significant imputed cost has to be added to this interest rate.[5]

Thus, the growing use of trade credit by small firms in a period of tight money can be viewed in two ways. On the one hand, taken by itself, the growth of trade credit ameliorates the effects of tight money for the borrowing firm. But, on the other hand, it may also be interpreted as an *indication* that *in its overall effects*, tight money imposes a severe burden on small firms. Admittedly, it is not by any means conclusive evidence that tight money discriminates against small firms, but it is certainly consistent with such a situation.[6]

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not necessarily lead to the further inference that small firms encounter little difficulty in financing under conditions of credit restrictions. Little is known as to the terms on which large credit supplies are made available through trade channels. Costs may be high, disadvantageous shifts in the product handled may be required, or other sacrifices may be necessary in order to gain credit through these channels." See, "Trade Credit: A Factor in the Rationing of Capital," *Monthly Review*, June 1957, p. 8. A Federal Reserve System study takes a more optimistic view: "such provision of credit, of course, was not necessarily without higher cost or ancillary restrictions which the small business might have preferred to avoid; but this kind of friction must necessarily occur if monetary restraint is to have effect. If small business had been able to transfer from one source of funds to another with no added cost or inconvenience, it would have had a highly favored position vis-a-vis large business . . . ." Federal Reserve System, *Report to the Committees on Banking and Currency and the Select Committees on Small Business, United States Congress*, 85th Cong., 2nd Sess., Washington, D.C., 1958, p. 498.

Allan Meltzer ("Mercantile Credit, Monetary Policy and Size of Firm," *op. cit.*, p. 431 n.), states that trade credit is "less costly and more flexible" than some other alternatives such as resorting to factoring, or losing control of the firm.

[3] R. H. Cole and R. S. Hancock, *Consumer and Commercial Credit Management*, Homewood, Ill.: Richard D. Irwin, Inc., 1964, pp. 340-341; W. J. Schultz and H. Reinhardt, in *Credit and Collection Management*, 3rd ed., Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1962, p. 29, state that the cash discount is ½, 1, 2, 3, percent "or even some higher percent". The Federal Reserve System study (*op. cit.*, p. 486) found that cash discounts on open book credit range from ½ percent to 8 percent, but that "the most frequently quoted figure is 2 percent". If the discount period is 10 days (*i.e.*, payment within ten days to get a cash discount) and payment due without a cash discount after 60 days, such a 2 percent rate amounts to an annual rate of 14.4 percent. If the final payment date is only 30 days, then the implicit annual rate is 36 percent. Cole and Hancock state that "in some businesses, particularly retail enterprises, the discounts taken can make the difference between a profit or a loss." (*Op. cit.*, pp. 341-342). A recent survey of trade credit granted by manufacturers and wholesalers found that if one disregards the one-third of the firms having two or more sets of selling terms one gets the following pattern:

discount	*percent of firms*
0	32
½%	6
1%	19
2%	38
other	5

Richard Sanzo, "What's Happened to Selling Terms?" *Dun's Review*, February 1959, p. 130.

[4] Charles Prather, *Financing Business Firms*, Homewood, Ill.: Richard D. Irwin, Inc., 1955, p. 237.

[5] Banks use this criterion in evaluating loan prospects. See Roland Robinson, *The Management of Bank Funds*, New York: McGraw Hill Book Co., 1962, p. 171.

[6] Not all trade credit takes the form of foregoing the cash discount. Some of it consists of borrowing on promissory notes. Such notes may originate in the buyers' inability to pay on time—if so, they represent high-cost borrowing since they damage the borrower's credit stand-

My second point is the following: Consider the position of small firms in the industry extending trade credit. Trade credit is a competitive weapon.[7] Hence, if small firms find it harder to borrow and therefore have difficulty in extending trade credit, they are at a competitive disadvantage compared to large firms. Thus, when one considers the industry extending trade credit as well as the industry receiving it, it is not at all certain that the growth of trade credit in a period of tight money does, on the average, help small firms vis-a-vis large ones. And the rapid expansion of trade credit in such a period does not provide any acceptable evidence for the belief that small firms do not suffer "unduly" from tight money.[8]

ing. Acceptances may also be used in extending trade credit.

If credit terms are stable, then one would expect the demand for trade credit to increase in a period of tight money when other interest rates are rising. Since small firms pay higher interest rates than large firms, they would tend to find trade credit profitable before large firms do.

Moreover, during a period of tight money, the volume of outstanding trade credit may increase in part merely because firms who are unable to pay within the period of the cash discount delay payment, at no cost to themselves until the last possible date, while in a period of easy money they sometimes pay before they are required to do so for reasons of convenience.

[7] The extent to which credit terms are used as a competitive weapon varies among industries. According to Shultz and Rinehardt, *op. cit.* pp. 19-20, ". . . variety in credit terms is extreme. In some business lines trade custom has crystallized terms that are rigidly adhered to by every seller; in other lines cutthroat competition is reflected as much in the credit terms offered as in the prices asked . . . ." A recent survey (Richard Sanzo, *op. cit.* pp. 50-51, 130-31) shows a great deal of competition in setting credit terms.

[8] Whether or not tight money actually does or does not impede small firms "unduly" is a question not under discussion here.

National Bank Ownership of A Subsidiary Bank

►JAMES J. SAXON

This Office has recently ruled that a national bank, subject to the specific approval of the Comptroller, may legally acquire and hold outstanding capital stock of another bank for the purpose of further engaging in the banking business through such latter institution.

The concept of engaging in the business of banking has been repeatedly expanded through statutory and decisional law to the point where today there is sufficient recognition that the acquisition by a national bank of the stock of another bank would be within the corporate power of the acquiring national bank.[1]

Statutory recognition of this power may be found in the Bank Holding Company Act of 1956 (12 U.S.C. 1841 et seq.). Section 1841(a) defines a bank holding company for the purposes of the Act as including:

> . . . any company (1) which directly or indirectly owns, controls, or holds with power to vote, 25 per centum or more of the voting shares of each of two or more banks . . .
> Notwithstanding the foregoing (A) no bank shall be a bank holding company by virtue of its ownership or control of shares in a fiduciary capacity, except where such shares are held for the benefit of the shareholders of such bank . . . .

The definition of "company" contained in Section 1841 (b) by its terms includes any corporation. Thus, a bank would fall within the definition of "company" and therefore, by necessary implication, could hold stock of another bank.

Moreover, Section 1843(c)(2) of that Act declares that certain prohibitions contained in 1843(a) otherwise applicable to bank holding companies shall not apply to "shares acquired by a bank holding company which is a bank."

Recent evidence of congressional awareness of the power of a national bank to acquire controlling stock interest in another bank is to be found in the text of H.R. 7371, a bill passed by Congress on June 21, 1966. Section 12(a) of such bill would amend Section 23 A of the Federal Reserve Act (12 U.S.C. 371c) by providing, in part, that such section is not to apply to:

> . . . any transaction by a member bank with another bank the deposits of which are insured by the Federal Deposit Insurance Corporation, *if more than 50 per centum of the voting stock of such other bank is owned by the member bank* or held by trustees for the benefit of the shareholders of the member bank. (Emphasis added.)

Relevant legislative history and judicial decisions make clear that the provisions

James J. Saxon is Comptroller of the Currency.

[1] 12 U.S.C. 24(7) expressly and affirmatively confers upon national banks the exercise of: "All such incidental powers as shall be necessary to carry on the business of banking." See also *Curtis* v. *Leavitt*, 15 N.Y. 2 (1857); *Dyer* v. *Broadway Central Bank*, 252 N.Y. 430 (1930); and Ralph F. Huck, *"What Is The Banking Business?" XXI, The Business Lawyer*, 537 (Jan. 1966).

of 12 U.S.C. 24 relating to stock investment have no relevance to stock acquisitions that do not impair the bank depositor's position and are not for the purpose of investment in speculative, nonbanking business. If the acquisition is effected through an exchange of shares of stock, bank funds will not be expended and the depositor's position is in no way impaired.

Nor can it be seriously contended that each banking office of the subsidiary bank could be considered as merely a branch of the acquiring bank, therefore possibly resulting in a violation of the bank branching policy enunciated in 12 U.S.C. 36 and 321.[2] Such contention is inherently contradictory. Pressed to its logical conclusion, such argument would make illegal many, and perhaps all, existing bank holding company organizations. If separate corporate existence must be disregarded in the one-bank acquisition transaction, it logically follows that separate corporate existence must be disregarded in the typical bank holding company organization. The illogical result would be that the banking offices of each bank in a bank holding company organization must be considered as branch offices of the bank which dominates and controls the organization, and consequently, are subject to restrictions of state branching laws.

However, in law and logic, the better view is that upon consummation of the type of stock acquisition here considered, no question under 12 U.S.C. 36 can arise. The two banks continue to be separate corporate entities, each with separate boards of directors, its own capital, surplus, and undivided profits. Deposits made in each institution will be liabilities of that institution and not of the other.

Moreover, last year the Federal Reserve Board, without regard to branching laws, consented to direct acquisition and ownership by the Citizens and Southern National Bank and the Atlantic National Bank of Jacksonville of stock in subsidiary corporations which, in turn, owned stock in other banks. The stock of the subsidiary corporation was, in each instance, previously held in trust for the shareholders for the parent bank.

It is therefore concluded that, for the foregoing reasons, a stock acquisition of the type described here is a valid exercise of the corporate powers of the acquiring bank.

[2] Under these provisions, the authority of a national and state member bank to establish branches within a specific state is subject to the geographic restrictions of state law applicable to banks chartered in such state.

Current Legal and Regulatory Developments

I. *Lending Limits*

As a general rule, a national bank may not lend more than 10 percent of its capital, surplus, undivided profits, and tax-paid reserves to any one borrower. One of the 13 exceptions to this rule, exception 10 to 12 U.S.C. 84, relates to obligations secured or covered by guaranties or by commitments or agreements to take over or to purchase made by the United States. Such guaranties, agreements, or commitments, however, must be substantially unconditional, as defined in Paragraph 1600(b) of the *Comptroller's Manual.*

The Comptroller, in ruling on the question of whether a loan to a university secured by a commitment from the Department of Housing and Urban Development, Community Facilities Administration, may be made in excess of the bank's lending limit, recently held that the agreement constituted an unconditional guaranty on the part of the Federal agency within the meaning and requirements of 12 U.S.C. 84(10). Accordingly, the construction loan to the university contemplated by the bank was not subject to any limitation based on the bank's capital and surplus.

The Comptroller found that: (1) the statement of intent by the agency with respect to the agreement is an assurance that the government would purchase the bonds at the proper time or assume the interim financing loan, if necessary, and could be used as security by the university in borrowing money from a bank; (2) under the terms and conditions of the agreement, in the event any loan under temporary financing should become due prior to the time when the bonds are ready for delivery, the borrower may apply to and receive from the government an advance against the bonds in an amount sufficient to liquidate such temporary loan; (3) under the terms and conditions of the agreement, all monies relating to the project must be deposited in a separate account or accounts by the borrower, and this account is subject to audit and inspection by authorized representatives of the government; and (4) approval by the government is required for every construction contract or change in a contract involved in the project.

In another case, a bank proposed to purchase accounts receivable from one of its customers under a nonrecourse purchase and sale agreement by which the seller would receive from its debtors, on behalf of the bank, collections on the accounts purchased by the bank. The seller would account to the bank at agreed-upon settlement dates for collections received by it between these dates, but would not be required to segregate the collections in a special account between settlement dates. And, the seller

would invest the proceeds from the sale of the accounts in a nonnegotiable certificate of deposit issued by the bank.

The Comptroller held that the amount of collections unremitted between settlement dates would not constitute an obligation of the seller within the meaning of 12 U.S.C. 84 and, therefore, need not be included in computing the lending limit of the bank to the seller. The ruling observed that "obligations," as used in 12 U.S.C. 84, include the direct liability of the maker or acceptor of paper discounted with or sold to a national bank and the liability of an endorser, drawer, or guarantor, who obtains a loan from or discounts paper with or sells paper under his guaranty to a national bank. In this case, the nonrecourse agreement takes the accounts receivable out of the category of "obligations" within the meaning and subject to the limitations of 12 U.S.C. 84.

The Comptroller has clarified the relationship of exceptions 2 and 13 under 12 U.S.C. 84 in the context of certain installment notes given in payment of heavy construction equipment.

A bank's customer, a dealer in heavy equipment of the type principally used in highway construction, offered to discount with the bank installment notes received from the buyer of this equipment, with full recourse endorsement.[1] The Comptroller ruled that exception 2 does not apply to nonnegotiable paper and does not ordinarily apply to negotiable paper arising out of the purchase by consumers of consumer goods.

Paragraph 1630(c) of the *Comptroller's Manual*, which discusses exception 13, defines the term "consumer" to include the user of any product whether leased or purchased. "Consumer paper" includes paper covering the lease or purchase of manufacturing equipment, automobiles, farm machinery, construction and excavation equipment, office machines, household appliances and similar consumer products. The equipment to be financed by the bank came within the term "consumer paper" found in paragraph 1630(c), and consequently the provisions of exception 13 of 12 U.S.C. 84[2] rather than the provisions of exception 2, were applicable to the transaction.

The Comptroller has ruled that the term "consumer paper," as used in exception 13 to 12 U.S.C. 84, may include mortgage paper executed in the course of financing the purchase of real estate. In an application of this ruling, it was held that the "obligations" of the mortgage lender with respect to this type of mortgage paper, which was transferred to the bank with the lender's full recourse endorsement, were subject to the 25 percent lending limit of exception 13.

Limitations of State Law

The Comptroller has ruled as inapplicable to national banks a provision of a state law which provides, in part, that no bank or trust company shall make a loan which is secured by more than 25

[1] Paragraph 1520 of the *Comptroller's Manual* states that exception 2 applies to negotiable paper given in payment for commodities purchased for resale or to be used for any other business purpose which may reasonably be expected to provide funds for payment of the paper, and which bears the full recourse endorsement of an actual owner.

[2] Under exception 13 of 12 U.S.C. 84, obligations as endorser or guarantor of negotiable or nonnegotiable installment consumer paper—which carries a full recourse endorsement or unconditional guarantee by the party transferring the paper—are subject to a lending limit of 25 percent of the bank's capital and surplus. See also paragraph 1100(c) of the *Comptroller's Manual*, which defines "unimpaired surplus fund" as used in 12 U.S.C. 84 to include all capital accounts (other than capital stock) that are derived from either paid-in capital funds or retained earnings, not subject to known charges, and that are considered interchangeable by resolution of the bank's board of directors.

percent of the stock of another bank or trust company.

Under the general authority of the National Banking Laws, 12 U.S.C. 1 *et seq.*, and under specific authority contained in paragraph 7 of 12 U.S.C. 24, the Comptroller is charged with the execution of all laws of the United States relating to the organization, operation, regulation, and supervision of national banks. Title 12 U.S.C. 24 sets forth the corporate powers of national banks, and together with 12 U.S.C. 84, empowers them to make personal loans and take security therefore. Present Federal law and regulations permit national banks to take the stock of other banking institutions as collateral for loans, and do not incorporate any aspect of state law as to the amount, value, or nature of collateral that may be taken.

II. *Real Estate Loans*

Real estate is "improved" within the meaning of the 12 U.S.C. 371 when substantial and permanent development or construction has contributed appreciably to its value.[3] Such development or construction may be in the immediate vicinity of the real estate and not located on it. Whether or not off-site improvements have enhanced the value of real estate, however, is a question of fact to be determined in each case.

The Comptroller has ruled that a certain tract was "improved" real estate and, consequently, eligible as collateral under 12 U.S.C. 371 in the case of some 1,000 acres traversed by roads and highways that had railroad facilities available in the north and northwest portions and that had all types of utilities readily accessible in the vicinity. Furthermore, the real estate was almost completely surrounded by fully developed residential, commercial, and industrial property.

[3] See Paragraph 2020 of the *Comptroller's Manual.*

III. *Lease Financing*

Paragraph 3400 of the *Comptroller's Manual* authorizes a bank to become the owner and lessor of personal property acquired upon the specific request and for the use of a customer and to incur any additional obligations that may be incident to becoming an owner and lessor of this property.

The Comptroller has held that a bank may lease equipment to an affiliated corporation which would, in turn, sublease it to its customers who would acknowledge that this equipment is the property of the bank. The ruling also held that the lease payments on the equipment may be made payable to the affiliate or to the bank when the bank is acting as collecting agent for the affiliate.

The Comptroller has further clarified paragraph 3400 of the *Comptroller's Manual* with respect to whether a bank may lease property to customers who have had no prior business relationship with the bank or whether the bank is strictly limited to direct leases of equipment to those customers with whom the bank has had prior business connections. It was held that no previous business relationship between the bank and the lessee was necessary. However, until there has been a specific request from a customer, it would not be proper for the bank to acquire any equipment for subsequent leasing.

IV. *Automated Services*

The Comptroller has held that a national bank may render automated billing and bookkeeping services to businesses through use of the bank's leased data processing equipment. The ruling noted that the banking industry's increased volume of transactions and the attendant demand for improved efficiency has prompted many banks to employ high-speed computer facilities.

The Comptroller held that when computer equipment has been leased or

otherwise acquired by a bank for conducting its internal business, it is entirely proper for the bank to utilize the equipment economically by soliciting other business to absorb the remaining, unused computer time. Such other business may include providing bookkeeping and billing services, which are essentially clerical functions readily adaptable to automation, and which do not demand the high degree of discretion required in the performance of legal or accounting operations. It was held that billing and bookkeeping services are so closely related to the demand deposit service provided by banks that they are clearly incidental to the business of banking. The utilization of unused computer time tends to reduce the overall cost of the equipment to the bank and results in less expensive and more efficient services to the public.[4]

V. *Pledge of Bank Assets*

The appointment and regulation of national banks as depositaries of public money are governed by 12 U.S.C. 90 and 12 U.S.C. 265. Under these provisions, the Secretary of the Treasury designates the nature and amount of security necessary to secure deposits of Federal funds and, in the case of state and local public funds, the officer making the deposit of such funds may specify the acceptable security for such deposits.

The Comptroller has held that if an insurance company surety bond is acceptable to the Secretary of the Treasury and state or local public officers as proper security for public deposits, no objection would be raised to a pledge of its bonds by a national bank with an insurance company as a means of reducing the premium. The bank would have a substantial interest in the performance of the transaction, thus fulfilling the requirements of paragraph 7010 of the *Comptroller's Manual.*

In another ruling, the Comptroller held that since a bank's interest as a seller of the property it owns is a substanial one, paragraph 7010 of the *Comptroller's Manual* should not be interpreted to prohibit the bank from issuing a full covenant warranty deed to the purchaser of its real property.[5]

VI. *Interest Rates*

The Comptroller has held that a national bank may issue a discounted certificate of deposit whose face value is greater than the actual amount of the deposit.

Federal law or regulations concerning time deposits do not restrict the form of a depositor's return on his funds or the method by which a national bank may pay interest on time deposits. The issuance of a discounted certificate of deposit by a national bank merely evidences the bank's recognition that a time depositor may receive a return or be paid interest in different ways.

VII. *International Operations*

Recently, the Comptroller held that a national bank may guarantee the deposit and other liabilities of its Edge Act and agreement corporations and the local institutions in foreign countries which are its corporate instrumentalities. These instrumentalities may include local institutions owned by the national bank in common with a European bank for the purpose of borrowing Euro-dollars to be lent principally to United States firms in

[4] For a related ruling applicable to bank service corporations, see *The National Banking Review*, 1, June 1964, p. 602.

[5] Paragraph 7010 provides, in effect, that if a national bank has a substantial interest in the performance of a transaction it may lend its credit, become a guarantor, surety or bind itself to indemnify others in case of loss in connection with the transaction.

Europe. Banks have been expressly authorized by Federal law to invest in Edge Act and agreement corporations, and through such corporations, to invest in local institutions in foreign countries for the purpose of engaging in international or foreign financial operations, including banking. Guaranteeing the obligations of such corporate instrumentalities is therefore the exercise of a power incidental to and necessary for carrying on the business of banking.

VIII. *Branch Banking*

Under the authority of 12 U.S.C. 24(7), a national bank may form a corporation for the purpose of making small loans, the stock of which may be held either directly by the bank or in trust for the benefit of the bank's shareholders.

In a recent opinion, the Comptroller stated that for the purpose of approving loans, the headquarters of the small-loan corporation should be located either on the bank premises or contiguous to the bank even though the corporation's other offices may be situated elsewhere. The decision involved the case of a small-loan corporation, each of whose loan files, including the loan application, insurance policy, and note, is kept at the office of the small loan corporation most convenient to the borrower, and all of whose collections from loans are made at local offices and deposited daily at the bank.

Furthermore, the receivables accumulate in the corporation, but are generally assigned to the bank, which has the right to take physical possession and commence collection at any time. Because the loan applications are approved at the main office of the bank, the other offices of the small loan corporation actually would not be "making loans" and, therefore, the Comptroller ruled they do not constitute branch offices of the bank under 12 U.S.C. 36.

Similarly, the Comptroller has ruled that a mortgage investment company having several offices in cities other than a bank's head office may solicit personal loans from its customers on behalf of the bank. Because the loan applications would be approved at the main office of the bank, the mortgage company's offices would not be making loans and, accordingly, the bank would not act in contravention of the branch banking laws applicable to national banks in the area. Moreover, it would be permissible for the mortgage company to maintain a supply of the bank's credit applications and note forms in its offices, and for its employees to process the credit applications. In addition, the bank may pay reasonable compensation for services performed for it by the mortgage company, but payment should not be in the form of a portion of the interest charged by the bank.

In another ruling, the Comptroller has held that there would be no branch banking involved where a national bank, under an arrangement with the American Express Company, agreed to replace that company's travelers checks which were lost or stolen, at the bank's foreign exchange facility, which was established by the bank at certain airports for the purpose of buying and selling foreign currency and to cash foreign travelers checks.

IX. *Loans To Executive Officers*

Federal law provides that with the prior approval of a majority of its entire board, a national bank may extend credit to an executive officer of the bank (and such officer may become indebted to the bank) in an amount not exceeding $2,500.[6] Paragraph 5235 of the *Comptroller's Manual* states that the term "executive officer" within the contemplation of the statute refers to an officer of the bank who, by virtue of his position, has

[6] 12 U.S.C. 375a.

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a voice in the formulation of bank policy and has the responsibility for its implementation. The Comptroller recently ruled that a loan in excess of $2,500 made in good faith to an individual who subsequently became an executive officer, where the loan was not made in contemplation of this appointment, does not prevent his assumption of office because of the $2,500 lending limitation of section 375a. However, in the absence of evidence that the officer does not have a voice in both the formulation and implementation of bank policy, the officer may not endorse either renewal notes or new notes in an amount which exceeds the statutory maximum.[7]

X. *Premiums To Obtain Savings Accounts*

The Comptroller has recently ruled on the payment of premiums by a national bank in order to attract new savings accounts. It was held that the use of gifts or free services which are nominal in value, nonrecurring in nature, and offered uniformly to all prospective depositors as an inducement for the opening of an account, is a legitimate advertising expense which may be utilized in connection with the promotion of the bank's business. However, if a gift or service bears a direct relationship to the size of the prospective account, and is either recurring in nature or of substantial value, then the gift or service may constitute an indirect payment of interest.

XI. *Investment Securities*

From January 1 through June 1, 1966, the Comptroller has ruled that the following securities are eligible for purchase, dealing in, underwriting, and unlimited holding by national banks:

(1) Commodity Credit Corporation Certificates of Interest in Pools of Price Support Loans (12 CFR 1.168);

(2) San Diego Stadium Authority Bonds (12 CFR 1.169);

(3) City of Santa Monica Parking Authority Bonds (12 CFR 1.170);

(4) FNMA Participation Certificates (12 CFR 1.172).

The Comptroller also has concluded that the State of Israel Bonds, Development Investment Issue (12 CFR 1.171), is eligible for purchase by national banks subject to the 5 percent limitation of the Comptroller's Investment Securities Regulation (12 CFR 1.6(b) and (c)).

XII. *Short Sales*

A recent ruling stated that a national bank which deals in public securities may take a short position therein since normal dealing activities may sometimes require this position.

XIII. *Special Class of Directors' Stock*

The Comptroller has ruled that a national bank may, by vote of its shareholders owning not less than two-thirds of its common stock, amend its Articles of Association to establish a separate class of common stock, issuable only to directors of the bank and only to the extent necessary to enable the directors to comply with the requirement of 12 U.S.C. 72 that every national bank director must own, in his own right, shares of the bank's stock aggregating not less than $1,000 par value (or $500 par value in the case of banks with capital of $25,000 or less). This separate class of common stock shall be without voting rights, and liquidation rights shall be limited to par value. The shares comprising the separate class of stock may have the same or higher par value (but not a lesser par value) than that of the bank's common capital stock and may be issued for cash equal to not less than par value. The total number of shares may exceed an amount necessary to satisfy directors' needs with respect to obtaining sufficient shares to qualify, if the excess authorized but unissued shares

[7] See also *The National Banking Review*, 1, March 1964, p. 427.

are necessary for issuance to directors subsequently elected or appointed. All shares of the separate class of common stock shall, at the time of issuance and at all times thereafter, be subject to a requirement that the bank redeem them at par from the director at the time he ceases to hold such office. All other privileges, rights and obligations appurtenant to the separate class of stock not inconsistent with law may pursuant to 12 U.S.C. 52, be fixed by the bank with the approval of its shareholders holding not less than two-thirds of the bank's stock outstanding and eligible to vote.[8]

XIV. *Litigation to which the Comptroller is a Party*

The United States Supreme Court has agreed to consider two cases which involve the extent to which state limitations on branch banking apply to national banks.[9] The cases that the Supreme Court was asked to review concern Utah law, which provides in essence that banks may branch statewide, but that such branching may be accomplished only by means of a merger with, or acquisition of, an existing bank. In his petition for certiorari, the Comptroller argued that 12 U.S.C. 36(c), which permits branching by national banks, incorporates only that part of state law dealing with state restrictions on branch location and capitalization. In addition, the Comptroller urged that the courts should not by implication make the restrictive Utah provision applicable to national banks as a part of Federal branching law, because the anticompetitive nature of the Utah provision, which requires merger or acquisition as a prerequisite to branching, runs counter to congressional policy favoring competition.

The first case involves the First Security Bank of Utah, a national bank located in Ogden, which had applied for and received from the Comptroller in 1963 approval to open a branch in Ogden, by opening a new office rather than by taking over an existing bank. Commercial Security Bank, a state-chartered bank with its main office and one branch in Ogden, then sued to block the Comptroller and First Security Bank. The second involves the Comptroller's approval of a branch of the First National Bank of Logan, Logan, Utah, which was challenged by Walker Bank and Trust Co., a state-chartered bank based in Salt Lake City that had a branch in Logan.

An issue similar to that in the Utah branch cases is now before the Sixth Circuit[10] after appeal by the Comptroller from an adverse District Court decision.[11] The case concerns the application of Indiana branching law to a proposed inside branch of a national bank. In its decision, the District Court followed the 10th Circ'cuit' opinion in the *Walker Bank and Trust Co.* case, that the Comptroller must consider all provisions of state law in determining the need for a new branch. It rejected as distinguishable the 4th Circuit position, in the *Smithfield* case,[12] that only those provisions of state law concerning location were binding on the Comptroller.

[8] This ruling modifies a ruling published in *The National Banking Review*, 3, Sept. 1965, p. 118.

[9] *Walker Bank and Trust Company* v. *James J. Saxon, Comptroller of the Currency, and the First National Bank of Logan*, No. 7981 (C. A. 10 1965) and *Commercial Security Bank* v. *James J. Saxon, Comptroller of the Currency*, No. 19,357 (C.A.D.C. 1965), Cert. granted—U.S.—(1966). A discussion of these cases appeared in *The National Banking Review*, 1, September 1963, p. 144; 2, December 1964, pp. 272-273; 2, March 1965, p. 435; 3, December 1965, p. 273; and 3, March 1966, p. 412.

[10] *Hoosier State Bank of Indiana* v. *James J. Saxon and Calumet National Bank of Hammond, Hammond, Indiana* No. 15561 and 15562 (C.A. 7 1966). A discussion of this case appeared in *The National Banking Review*, 2, June 1965, p. 586.

[11] *Hoosier State Bank of Indiana* v. *James J. Saxon and Calumet National Bank of Hammond, Hammond, Indiana* C.A. No. 4111 (N.D. Ind. 1965).

[12] *First National Bank of Smithfield* v. *James J. Saxon, Comptroller of the Currency and First*

Four cases presently before the courts concern the Comptroller of the Currency's approval of branch applications. Two United States District Courts have recently held trials to ascertain whether the Comptroller's finding that there was need and necessity for a branch was an abuse of discretion by the Comptroller. In the first case,[13] the court pointed out, in its opinion, that its function was not to pass judgment on an application, but only to determine whether the Comptroller's decision was arbitrary and capricious and, threfore, an abuse of his discretion. The court found, on the basis of facts presented to it, that the Comptroller's decision was not an abuse of discretion. In the second case,[14] trial has been completed although the court has not yet given its opinion.

In a third case,[15] the District Court decision has been appealed to the Sixth Circuit. In that case, the District Court had found it unnecessary to have a trial *de novo* on the issue of need and necessity, distinguishing the Fourth Circuit decision in the *Smithfield* case.[16] The court determined that the Comptroller was not arbitrary and capricious and, therefore, did not abuse his discretion in approving a new branch. In the fourth case [17] challenging the Comptroller's finding of need and necessity, the court, at the request of the Comptroller, remanded the case to him for further administrative proceedings. When the Comptroller's proceedings have been completed, the case will then be considered by the court.

A complaint was recently filed [18] by a number of investment bankers challenging, in general, the Comptroller's Investment Securities Regulation, and, in particular, a ruling pursuant to his regulation that certain bonds issued by the New York Port Authority are eligible for purchase, dealing in, underwriting and unlimited holding by national banks. In his answer, the Comptroller challenged plaintiffs' standing to prosecute their suit and alleged that both his Investment Securities Regulation and the subject ruling were proper in all respects. The case is now pending.

In a similar case,[19] a trade association representing a group of Georgia insurance agents has sued the Comptroller, attacking his ruling that a national bank may write insurance incidental to banking transactions. In his answer, the Comp-

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National Bank of Smithfield v. *First National Bank of Eastern North Carolina*, 302 F. 2nd 267 (C.A. 4 1965). A discussion of these and cases involving similar issues appeared in *The National Banking Review* 1, December 1963, pp. 270-271; 1, June 1964, p. 611; 2 September 1964, p. 101; 2, December 1964, p. 271; 2, March 1965, pp. 435-436; 2, June 1965, p. 587; 3, September 1965, p. 119; 3, December 1965, pp. 272-273; and 3, March 1966, p. 412.

[13] *Southern Michigan National Bank of Coldwater* v. *James J. Saxon and First National Bank of Quincy*, C.A. No. 4948 (W.D. Mich., S. Div. 1964). A discussion of this case appeared in *The National Banking Review*, 2, March 1965, pp. 436-437.

[14] *Bank of Haw River* v. *James J. Saxon and First National Bank of Eastern North Carolina*, C.A. No. C-124-G-65 (M.D. N.C. 1965). See *The National Banking Review*, 3, September 1965, p. 119. For other cases involving similar issues see note 12, *supra*.

[15] *American Bank and Trust Company* v. *James J. Saxon and Dart National Bank*, C.A. No. 483 (W.D. Mich., S. Div. 1964). A discussion of this case appeared in *The National Banking Review*, 2, September 1964, pp. 100-101; 3, March 1966, p. 412.

[16] *Supra*, note 12.

[17] *National Bank of McKeesport et al.* v. *James J. Saxon, Comptroller of the Currency*, C.A. No. 66-199 (W.D. Pa. 1966).

[18] *Baker, Watts & Co. et al. v. James J. Saxon*, C.A. No. 97-66 (D. D.C. 1966).

[19] *Georgia Association of Independent Insurance Agents, Inc. et al.* v. *James J. Saxon, Comptroller of the Currency of the United States of America*, C.A. No. 9846 (N.D. Ga., Atlanta Div. 1965).

troller challenged the plaintiff's standing to maintain the action. This case is now pending.

Two recently filed cases are also of interest. The first [20] challenges the application for a new national bank and seeks to enjoin the granting of a charter for the bank. The second [21] challenges the Comptroller's approval of another bank's main office relocation coupled with retention of its former main office as a branch.

In another significant case,[22] a District Court, in the course of its opinion upholding the plaintiff's position that a national bank's branch was in contravention of state law, invited the plaintiff to seek an injunction prohibiting the branch's further operation, notwithstanding that the branch had been in operation for some time. The motion for the injunction was made, but after deliberation was denied by the court.

The Comptroller is at the present time a party to four merger cases in various stages of litigation. The Comptroller has intervened pursuant to the Bank Merger Act of 1966 (12 U.S.C. 1828) as a matter of statutory right in three cases,[23] and was permitted to intervene by the court in the fourth.[24]

The trial of the *Crocker-Anglo* case,[25] which was held in the summer of 1965 before a 3-judge court, was reopened in April 1966 for hearings, reception of supplemental trial briefs and new evidence, in accordance with the Bank Merger Act of 1966.

The *Nashville* case,[26] filed by the Antitrust Division of the Department of Justice prior to passage of the new Bank Merger Act, is the first to be tried *in toto* under the terms of this Act. The trial commenced in April 1966 and should be concluded by the end of June 1966. Similarly, the *Mercantile Trust Company* case [27] will be tried under the new Act, probably before the end of 1966, even though the case was pending before enactment. This case is presently in the final stage of pre-trial discovery.

The *Provident National Bank* case, the first bank merger case filed after passage of the new law, will be discussed in a subsequent issue of *The National Banking Review*. It is expected that trial will have commenced by August 1966.

In addition to the four cases mentioned above, the Antitrust Division of the Department of Justice announced on June 13, 1966 that it had filed suit to block a transaction which would have united the First National Bank of Hawaii and Cooke Trust Company. The transaction was approved by the Comptroller on May 12, 1966.

XV. *Other Litigation*

In a case of first impression, a United States District Court ruled on the apparent conflict of the venue provisions of the Federal Securities Acts and the National Bank Act. In a suit involving alleged violations of the Securities Act of 1933 and the Securities Exchange Act of 1934, the defendant national bank moved to sever and dismiss on the basis

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[20] *Warren Bank* v. *James J. Saxon*, C.A. No. 28290 (E.D. Mich., S. Div. 1966).

[21] *Merchants and Miners Bank* v. *Saxon et al.*, C.A. No. 1042 (W.D. Mich., N. Div. 1966).

[22] *Bank of Sussex County* v. *James J. Saxon and Peoples National Bank of Sparta*, C.A. No. 568-65 (D. N.J. 1965).

[23] *United States* v. *Crocker-Anglo National Bank*, C.A. No. 41808 (N.D. Cal. 1963); *United States* v. *Third National Bank in Nashville*, C.A. No. 3849 (M.D. Tenn. 1964); and *United States* v. *Provident National Bank et al.*, C.A. No. 40032 (E.D. Pa. 1966).

[24] *United States* v. *Mercantile Trust Co., et al.* C.A. No. 65C241(1) (E.D. Mo. 1965).

[25] See *The National Banking Review*, 1, December 1963, pp. 268-269.

[26] This case was discussed in *The National Banking Review*, 2, December 1964, p. 270.

[27] This case was discussed in *The National Banking Review*, 3, September 1965, p. 121.

of 12 U.S.C. 94, which provides, in essence, that a national bank may only be sued in the Federal district encompassing the location specified in its charter. The Securities and Exchange Commission filed a brief as *amicus curiae* arguing that the broad venue provisions of the Securities Laws should control. The Department of Justice appeared as *amicus curiae* on behalf of the Comptroller of the Currency.

The Court held [28] that the venue provisions of the National Bank Act (12 U.S.C. 94) were not supplanted or repealed by the later-enacted venue provisions of the Securities Act or Exchange Act (15 U.S.C. §§77v(a), 78(aa)), and that the later acts are limited so as to exempt national banks. Suit against a national bank under the Federal Securities Acts therefore can be maintained only in the district in which the bank is established.

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[28] *General Electric Credit Corporation* v. *James Talcott, Inc., and Franklin National Bank,* (64 Civ. 3680)—Fed. Supp.—(S.D.N.Y. 1966).

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TABLE 1

Number of national banks and banking offices, by states, March 31, 1966

	National banks			Number of branches	Number of offices
	Total	Unit	With branches		
United States	4,814	3,457	1,357	8,935	13,749
Alabama	86	56	30	127	213
Alaska	5	0	5	40	45
Arizona	4	1	3	174	178
Arkansas	65	37	28	58	123
California	93	51	42	1,748	1,841
Colorado	116	116	0	0	116
Connecticut	29	11	18	169	198
Delaware	5	3	2	4	9
District of Columbia	8	0	8	47	55
Florida	196	196	0	0	196
Georgia	58	33	25	120	178
Hawaii	2	0	2	40	42
Idaho	9	3	6	95	104
Illinois	416	416	0	0	416
Indiana	122	59	63	256	378
Iowa	102	72	30	33	135
Kansas	170	147	23	23	193
Kentucky	81	40	41	121	202
Louisiana	47	16	31	135	182
Maine	21	6	15	69	90
Maryland	50	21	29	189	239
Massachusetts	92	28	64	325	417
Michigan	98	39	59	426	524
Minnesota	194	192	2	6	200
Mississippi	35	9	26	83	118
Missouri	96	78	18	18	114
Montana	49	49	0	0	49
Nebraska	126	109	17	17	143
Nevada	3	1	2	33	36
New Hampshire	51	33	18	23	74
New Jersey	149	48	101	432	581
New Mexico	34	15	19	53	87
New York	198	104	94	966	1,164
North Carolina	29	8	21	263	292
North Dakota	42	37	5	5	47
Ohio	226	97	129	531	757
Oklahoma	221	194	27	27	248
Oregon	12	7	5	212	224
Pennsylvania	368	217	151	797	1,165
Rhode Island	4	0	4	53	57
South Carolina	25	5	20	176	201
South Dakota	34	27	7	38	72
Tennessee	76	24	52	208	284
Texas	546*	546	0	0	546
Utah	13	9	4	55	68
Vermont	27	15	12	32	59
Virginia	120*	49	71	341	461
Washington	30	15	15	341	371
West Virginia	79	79	0	0	79
Wisconsin	111	99	12	24	135
Wyoming	40	40	0	0	40
Virgin Islands	1	0	1	2	3
D.C.—all†	15	1	14	83	98

* Includes one bank organized under Section II of the Federal Deposit Insurance Act.

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

TABLE 2

Total and principal assets of national banks, by states, December 31, 1965
(Dollar amounts in millions)

	Number of banks	Total assets	Cash assets*	U.S. Government obligations, net	State and local securities, net	Other bonds, notes, net	Loans and discounts, net	Federal funds sold	Direct lease financing	Fixed assets
United States	4,815	$219,103	$36,880	$31,896	$22,541	$2,873	$116,833	$1,433	$271	$3,158
Alabama	86	2,527	471	476	296	31	1,188	15	—	36
Alaska	5	275	34	43	23	11	154	0	0	8
Arizona	4	1,709	233	178	135	24	1,072	0	1	38
Arkansas	65	1,149	243	174	140	20	548	2	—	18
California	95	27,560	3,752	3,340	2,615	319	16,519	24	105	453
Colorado	117	2,308	420	350	178	9	1,269	7	5	50
Connecticut	29	1,860	247	199	252	6	1,094	3	1	45
Delaware	5	26	4	8	—	1	12	1	0	1
District of Columbia	8	1,445	269	345	64	3	712	19	0	22
Florida	195	5,717	1,232	1,122	531	123	2,487	41	—	134
Georgia	57	2,858	592	327	198	39	1,602	15	4	53
Hawaii	2	424	53	65	42	4	236	4	1	13
Idaho	9	711	89	120	66	5	414	—	0	13
Illinois	417	19,328	3,018	3,296	2,022	379	10,036	74	39	134
Indiana	122	4,752	847	975	380	91	2,268	93	7	56
Iowa	101	1,594	344	304	137	31	741	10	—	19
Kansas	170	1,970	356	411	214	37	915	4	—	19
Kentucky	81	1,593	316	295	158	25	749	21	0	22
Louisiana	47	2,898	604	528	277	23	1,375	30	1	37
Maine	21	468	66	69	52	5	259	6	0	9
Maryland	50	2,013	339	320	177	31	1,084	24	3	23
Massachusetts	93	5,781	1,060	698	475	22	3,258	76	5	67
Michigan	97	8,432	1,197	1,452	929	43	4,613	10	10	102
Minnesota	193	4,468	838	684	441	94	2,295	16	2	62
Mississippi	37	968	179	162	111	8	474	5	—	22
Missouri	96	4,337	963	608	422	30	2,191	35	4	40
Montana	50	661	94	129	65	10	342	1	—	13
Nebraska	126	1,719	341	262	142	26	913	—	1	22
Nevada	3	492	62	78	56	16	257	1	0	19
New Hampshire	51	476	74	68	28	1	287	8	0	8
New Jersey	147	6,687	807	1,083	965	125	3,537	36	2	94
New Mexico	34	715	111	138	62	2	367	20	—	13
New York	198	34,234	5,994	3,086	3,629	356	19,088	425	39	400
North Carolina	30	1,953	392	220	192	37	1,058	5	0	33
North Dakota	42	559	66	119	64	16	278	0	—	12
Ohio	224	9,532	1,465	1,736	1,080	106	4,868	93	6	115
Oklahoma	222	3,487	784	593	313	59	1,647	18	1	53
Oregon	12	2,808	399	419	266	102	1,522	0	2	57
Pennsylvania	373	14,665	2,034	2,236	2,013	163	7,713	122	20	186
Rhode Island	4	821	96	66	172	2	470	2	0	8
South Carolina	25	1,027	201	157	74	26	526	19	0	19
South Dakota	33	630	84	141	50	12	326	0	—	12
Tennessee	76	3,880	783	595	387	30	1,991	9	0	52
Texas	545	14,911	3,293	2,128	1,451	233	7,252	89	—	327
Utah	13	742	131	55	98	2	438	2	2	10
Vermont	27	297	31	54	22	4	174	6	0	5
Virginia	118	3,401	508	536	322	48	1,896	13	1	58
Washington	31	3,646	629	509	344	25	2,018	14	2	63
West Virginia	79	1,063	162	305	102	13	452	7	1	17
Wisconsin	110	3,056	498	528	293	45	1,608	9	2	52
Wyoming	39	432	73	96	27	3	217	3	—	10
Virgin Islands	1	34	3	8	2	0	20	0	0	—
D.C.-all†	15	2,520	436	562	102	10	1,338	23	0	31

* Cash, balances with other banks, and cash items in process of collection.

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 3

Total and principal liabilities of national banks, by states, December 31, 1965
(Dollar amounts in millions)

	Total liabilities	Total deposits	Demand deposits, total	Time and savings deposits, total	Demand deposits, IPC*	Time deposits, IPC	Federal funds purchased
United States	$201,669	$193,860	$107,881	$85,979	$81,129	$75,676	$1,497
Alaska	2,326	2,278	1,436	842	1,053	791	0
Arizona	260	254	135	120	107	76	2
Arkansas	1,574	1,537	763	775	597	744	—
California	1,059	1,047	699	349	514	327	0
Colorado	25,691	24,793	10,508	14,285	8,663	11,949	38
Connecticut	2,125	2,083	1,175	908	948	838	7
Delaware	1,699	1,632	1,012	620	890	555	0
District of Columbia	24	24	12	12	12	12	0
Florida	1,342	1,315	851	464	714	445	2
	5,282	5,148	3,172	1,976	2,213	1,675	19
Georgia	2,617	2,530	1,715	815	1,202	735	13
Hawaii	379	372	200	172	146	142	0
Idaho	663	651	371	280	274	279	0
Illinois	17,847	17,181	9,501	7,680	7,126	6,963	124
Indiana	4,396	4,181	2,503	1,678	1,874	1,553	85
Iowa	1,473	1,456	957	499	677	470	0
Kansas	1,794	1,767	1,197	570	783	534	4
Kentucky	1,462	1,444	982	463	787	433	0
Louisiana	2,666	2,627	1,826	801	1,298	714	3
Maine	424	409	231	178	200	175	—
Maryland	1,852	1,794	1,129	665	886	612	18
Massachusetts	5,257	4,894	3,540	1,355	2,718	1,175	109
Michigan	7,894	7,710	3,516	4,194	2,774	3,700	12
Minnesota	4,121	3,970	2,259	1,711	1,551	1,613	14
Mississippi	885	869	603	266	396	249	3
Missouri	3,973	3,831	2,627	1,204	1,729	1,090	67
Montana	614	597	317	280	248	261	1
Nebraska	1,570	1,527	1,064	463	747	454	25
Nevada	452	444	237	206	175	194	0
New Hampshire	431	411	280	131	228	120	—
New Jersey	6,190	5,984	3,066	2,918	2,551	2,819	23
New Mexico	663	650	404	246	307	211	1
New York	31,173	28,762	16,089	12,673	11,199	10,314	550
North Carolina	1,798	1,742	1,116	626	863	506	5
North Dakota	520	508	261	247	221	235	1
Ohio	8,774	8,550	4,522	4,028	3,532	3,776	6
Oklahoma	3,175	3,097	2,098	999	1,528	936	15
Oregon	2,614	2,548	1,149	1,399	939	1,155	0
Pennsylvania	13,332	12,874	6,295	6,579	5,183	5,927	76
Rhode Island	766	710	267	442	224	390	37
South Carolina	946	904	743	161	590	147	0
South Dakota	585	574	307	268	244	244	0
Tennessee	3,585	3,466	2,097	1,369	1,361	1,246	31
Texas	13,713	13,315	8,532	4,783	6,028	3,939	192
Utah	685	671	319	351	230	277	5
Vermont	273	266	100	166	86	162	—
Virginia	3,123	3,047	1,593	1,454	1,290	1,360	3
Washington	3,377	3,284	1,823	1,460	1,472	1,442	6
West Virginia	964	944	538	406	411	402	1
Wisconsin	2,834	2,770	1,521	1,249	1,181	1,145	0
Wyoming	395	387	213	174	153	156	0
Virgin Islands	32	30	9	21	8	12	0
D.C.-all†	2,331	2,281	1,459	822	1,264	794	2

* IPC deposits are those of individuals, partnerships, and corporations.

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 4

Capital accounts of national banks, by states, December 31, 1965
(Dollar amounts in millions)

	Total capital accounts	Debentures	Preferred stock	Common stock	Surplus	Undivided profits	Reserves
United States	$17,434	$1,134	$29	$4,937	$7,967	$2,903	$463
Alabama	201	0	0	64	83	42	12
Alaska	15	—	0	5	5	5	1
Arizona	135	26	0	30	57	19	3
Arkansas	90	1	0	28	38	21	3
California	1,868	145	0	500	817	395	11
Colorado	183	4	0	59	81	38	1
Connecticut	161	11	0	44	85	21	1
Delaware	2	0	0	1	1	—	—
District of Columbia	103	0	0	29	54	19	—
Florida	435	20	0	167	181	54	13
Georgia	241	37	0	54	96	29	25
Hawaii	46	12	0	9	14	10	2
Idaho	48	0	0	17	24	6	1
Illinois	1,481	11	0	515	691	218	46
Indiana	356	13	0	86	175	73	8
Iowa	121	0	0	32	55	32	2
Kansas	175	—	0	52	79	42	2
Kentucky	132	0	0	31	72	26	3
Louisiana	231	—	3	53	132	43	1
Maine	44	0	0	17	15	11	1
Maryland	161	2	0	45	79	30	5
Massachusetts	523	10	0	145	284	78	6
Michigan	539	40	4	140	242	100	13
Minnesota	347	14	0	116	145	67	5
Mississippi	83	6	0	22	54	1	—
Missouri	365	26	0	103	154	77	6
Montana	47	0	0	17	17	12	1
Nebraska	149	3	—	41	60	40	4
Nevada	40	0	0	17	15	5	3
New Hampshire	46	0	0	9	25	9	2
New Jersey	496	27	—	141	242	75	11
New Mexico	52	0	0	19	19	6	8
New York	3,061	584	20	789	1,190	310	168
North Carolina	155	15	0	38	78	23	1
North Dakota	39	0	0	13	16	10	1
Ohio	759	24	—	216	392	123	3
Oklahoma	312	18	—	86	122	82	4
Oregon	193	0	0	61	71	57	5
Pennsylvania	1,333	29	1	298	763	225	16
Rhode Island	56	0	0	15	30	11	0
South Carolina	81	0	—	20	46	13	1
South Dakota	45	—	0	15	20	9	1
Tennessee	295	11	—	75	148	53	7
Texas	1,198	40	0	412	521	190	36
Utah	57	0	0	19	30	7	1
Vermont	24	—	1	7	10	5	1
Virginia	278	—	0	86	146	44	2
Washington	269	0	0	79	118	71	2
West Virginia	100	0	0	24	52	19	5
Wisconsin	222	1	0	74	102	38	8
Wyoming	37	1	0	6	19	10	1
Virgin Islands	2	0	0	—	1	1	0
D.C.-all†	189	13	0	44	96	32	3

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 5

Selected loans and discounts of national banks, by states, December 31, 1965
(Dollar amounts in millions)

	Loans secured by real estate	Loans to financial institutions	Loans to purchase or carry securities	Commercial and industrial loans	Personal loans to individuals
United States	$27,878	$9,123	$3,888	$44,536	$26,463
Alabama	193	63	35	391	434
Alaska	66	1	1	49	40
Arizona	283	54	13	297	259
Arkansas	125	20	11	168	170
California	5,405	1,165	194	5,897	3,258
Colorado	272	114	23	362	326
Connecticut	342	32	8	333	341
Delaware	5	0	0	2	4
District of Columbia	240	106	12	222	127
Florida	501	142	76	892	821
Georgia	293	147	17	585	536
Hawaii	100	6	4	56	56
Idaho	145	14	8	84	101
Illinois	1,617	1,227	577	4,674	1,691
Indiana	718	148	57	602	669
Iowa	198	29	12	177	164
Kansas	131	55	11	287	213
Kentucky	200	48	8	213	231
Louisiana	186	120	60	630	346
Maine	81	12	2	78	78
Maryland	310	82	32	333	298
Massachusetts	475	302	48	1,658	747
Michigan	1,658	338	123	1,179	1,248
Minnesota	578	214	75	810	474
Mississippi	80	22	15	186	133
Missouri	431	241	78	778	564
Montana	94	4	2	82	94
Nebraska	109	34	30	246	176
Nevada	92	11	7	74	68
New Hampshire	68	18	5	90	102
New Jersey	1,469	138	84	835	1,001
New Mexico	75	15	6	121	113
New York	3,270	1,998	1,313	9,811	2,523
North Carolina	163	41	16	458	359
North Dakota	92	4	2	61	59
Ohio	1,475	301	143	1,238	1,547
Oklahoma	275	111	28	670	383
Oregon	394	119	14	596	325
Pennsylvania	2,162	479	156	2,860	1,753
Rhode Island	228	22	—	130	70
South Carolina	73	26	16	175	215
South Dakota	86	8	1	72	61
Tennessee	287	155	52	759	688
Texas	755	504	412	3,324	1,735
Utah	171	36	9	126	76
Vermont	79	—	2	35	49
Virginia	538	87	25	493	702
Washington	502	185	30	720	439
West Virginia	162	15	7	97	170
Wisconsin	552	109	30	450	376
Wyoming	64	2	2	65	47
Virgin Islands	12	0	0	6	2
D.C.-all*	394	202	29	352	342

* Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 6a

Income and expenses of national banks, by states, year ended December 31, 1965 (Dollar amounts in millions)

	Number of banks*	Current operating revenue								
		Total current operating revenue	Interest and dividends on securities		Interest and discount on loans	Service charges		Other charges, commissions, and fees	Trust department	Other current operating revenue
			U.S. Government obligations	Other Securities		On bank loans	On deposit accounts			
United States	4,815	$9,705	$1,210	$756	$6,377	$118	$490	$159	$356	$240
Alabama	86	114	17	9	72	1	8	1	3	2
Alaska	5	17	2	1	11	1	1	1	—	—
Arizona	4	94	6	5	66	3	7	2	3	1
Arkansas	65	49	6	5	32	—	3	1	1	1
California	95	1,424	129	93	966	30	103	21	42	40
Colorado	117	113	14	6	73	1	8	2	6	3
Connecticut	29	95	7	7	63	1	6	1	8	1
Delaware	5	1	—	—	1	—	—	—	0	—
District of Columbia	8	60	12	2	37	1	3	1	2	1
Florida	195	240	40	18	142	4	16	4	10	6
Georgia	57	139	13	7	94	3	11	5	5	2
Hawaii	2	20	2	1	14	1	1	—	0	—
Idaho	9	37	4	2	25	1	3	1	—	—
Illinois	417	793	124	76	496	5	22	10	40	19
Indiana	122	206	37	13	129	2	10	4	7	5
Iowa	101	66	11	5	42	—	3	1	2	1
Kansas	170	84	16	7	52	—	5	1	2	1
Kentucky	81	66	11	5	42	1	3	1	2	1
Louisiana	47	115	20	9	74	1	6	2	1	3
Maine	21	24	3	1	16	—	1	—	1	1
Maryland	50	91	13	6	59	2	5	1	3	1
Massachusetts	93	269	25	13	177	3	15	11	14	11
Michigan	97	373	56	30	245	3	15	6	12	6
Minnesota	193	198	27	15	125	2	10	8	9	2
Mississippi	37	43	6	4	28	—	3	1	1	1
Missouri	96	166	22	13	112	1	4	2	9	4
Montana	50	32	5	2	21	1	2	1	—	—
Nebraska	126	76	11	5	51	—	4	1	2	1
Nevada	3	26	3	2	17	1	2	—	1	1
New Hampshire	51	24	2	1	17	—	2	—	—	1
New Jersey	147	302	41	30	193	2	18	4	9	4
New Mexico	34	36	5	2	24	—	3	1	1	1
New York	198	1,396	120	124	950	14	44	20	59	65
North Carolina	30	90	9	6	59	3	6	3	3	1
North Dakota	42	27	5	2	17	—	2	1	—	—
Ohio	224	407	63	33	263	3	20	4	13	7
Oklahoma	222	145	23	9	96	1	9	2	3	2
Oregon	12	132	13	9	89	2	12	1	4	3
Pennsylvania	373	647	87	69	410	6	20	7	35	13
Rhode Island	4	37	3	5	25	—	2	1	2	1
South Carolina	25	46	6	3	30	—	4	1	1	1
South Dakota	33	32	5	2	20	—	2	1	—	—
Tennessee	76	163	23	12	113	1	6	3	4	2
Texas	545	599	82	46	402	6	24	9	17	13
Utah	13	36	2	3	25	1	2	1	1	—
Vermont	27	15	2	1	10	—	1	—	—	—
Virginia	118	160	19	11	108	2	9	2	6	2
Washington	31	182	20	12	118	3	15	4	6	4
West Virginia	79	46	11	3	28	—	1	1	1	1
Wisconsin	110	127	20	9	83	1	5	2	3	3
Wyoming	39	21	3	1	14	—	1	1	—	—
Virgin Islands	1	2	—	—	1	—	—	—	0	—
D.C.-all†	15	111	20	3	70	2	7	1	6	2

* Number of banks as of end of year, but figures of income, expenses, etc., include banks which were in operation a part of the year but were inactive at the close of the year.

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 6b

Income and expenses of national banks, by states, year ended December 31, 1965

(Dollar amounts in millions)

	Current operating expenses												
		Salaries and wages											
	Total current operating expenses	Officers		Employees other than officers		Officer and employee benefits	Fees to directors	Interest on time and savings deposits	Interest and discount on borrowed money	Net occupancy expense of bank premises	Furniture and equipment—depreciation and other costs	Other current operating expenses	Net current operating earnings
		Amount	Number	Amount	Number								
United States	$7,224	$743	67,149	$1,369	326,673	$308	$36	$3,002	$26	$409	$245	$1,085	$2,482
Alabama	81	10	970	17	4,767	3	1	29	—	4	3	14	33
Alaska	12	2	122	3	592	1	—	4	—	1	1	2	5
Arizona	75	8	740	16	3,985	3	—	29	—	5	3	11	19
Arkansas	35	5	529	6	1,850	1	—	11	—	2	1	6	14
California	1,125	106	10,150	219	47,289	42	1	534	1	63	35	125	299
Colorado	90	11	1,025	17	4,013	3	1	33	—	7	4	14	24
Connecticut	72	9	771	17	4,008	4	—	21	—	5	4	11	23
Delaware	1	—	26	—	78	—	—	—	—	—	—	—	—
District of Columbia	41	5	362	9	1,864	1	—	15	—	3	2	6	18
Florida	186	22	2,104	38	10,197	7	1	64	1	11	9	32	54
Georgia	105	12	1,037	23	5,652	6	1	29	1	8	4	21	34
Hawaii	16	2	140	3	682	1	—	6	0	1	1	2	5
Idaho	26	2	313	5	1,475	1	—	10	0	1	1	4	11
Illinois	568	51	3,987	97	21,675	23	3	273	2	25	16	78	224
Indiana	150	18	1,634	30	7,549	6	1	50	—	9	6	29	56
Iowa	48	8	733	9	2,450	2	—	16	—	3	2	8	18
Kansas	57	10	1,017	10	2,689	2	1	19	—	3	2	9	27
Kentucky	46	6	700	9	2,554	2	1	15	—	3	2	8	20
Louisiana	82	9	772	17	4,217	4	1	26	1	5	3	17	33
Maine	17	2	233	4	1,112	1	—	5	—	1	1	3	6
Maryland	65	7	678	14	3,716	3	—	20	—	5	3	13	25
Massachusetts	179	21	1,609	45	10,369	10	1	46	1	13	8	35	90
Michigan	300	19	1,551	55	12,968	12	1	147	1	16	8	40	73
Minnesota	145	17	1,589	26	6,593	6	1	56	1	8	6	24	53
Mississippi	30	4	369	6	1,564	1	—	9	1	1	1	6	13
Missouri	116	13	1,116	24	6,044	5	1	43	1	6	4	20	51
Montana	23	3	345	4	1,039	1	—	9	—	1	1	5	8
Nebraska	54	10	868	10	2,659	3	1	16	—	3	3	9	22
Nevada	18	2	256	4	933	1	—	7	—	1	1	2	8
New Hampshire	17	3	285	4	1,056	1	—	4	—	1	1	4	7
New Jersey	232	23	2,003	48	11,650	10	2	88	1	15	8	36	70
New Mexico	28	4	356	6	1,495	1	—	9	—	2	1	5	9
New York	1,046	69	5,306	189	39,653	56	2	502	2	63	23	138	350
North Carolina	67	9	840	15	4,236	3	—	21	—	4	3	11	23
North Dakota	20	3	290	3	861	1	—	9	—	1	1	3	7
Ohio	295	29	2,422	56	13,509	10	2	122	1	14	9	52	113
Oklahoma	102	17	1,664	18	4,666	4	1	36	1	5	4	18	43
Oregon	105	14	1,395	19	4,556	4	—	47	—	6	4	12	28
Pennsylvania	476	45	4,368	83	19,941	20	4	207	2	25	16	73	171
Rhode Island	30	2	187	5	1,263	2	—	16	—	1	1	3	7
South Carolina	31	6	555	9	2,714	2	—	4	—	2	2	6	15
South Dakota	23	4	362	4	1,033	1	—	9	—	1	1	3	9
Tennessee	119	12	1,190	22	5,758	4	1	49	—	6	5	20	44
Texas	433	54	5,089	68	17,442	15	3	164	3	26	14	85	166
Utah	25	2	243	4	1,144	1	—	12	—	1	1	4	10
Vermont	12	1	163	2	571	—	—	6	—	1	—	1	3
Virginia	117	14	1,495	22	6,484	5	1	46	—	6	4	18	43
Washington	138	16	1,575	31	6,963	7	—	53	—	9	5	17	44
West Virginia	31	4	427	6	1,523	1	—	12	—	1	1	5	15
Wisconsin	95	11	955	17	4,777	4	1	38	1	5	4	14	32
Wyoming	16	2	226	3	703	1	—	6	—	1	1	2	5
Virgin Islands	2	—	13	—	92	—	—	1	—	—	—	—	1
D.C.-all*	76	9	623	16	3,552	2	1	27	—	5	3	13	35

*Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.
Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 6c

Income and expenses of national banks, by states, year ended December 31, 1965
(Dollar amounts in thousands)

	Recoveries, transfers from valuation reserves, and profits*								Losses, chargeoffs, and transfers to valuation reserves†					
		On securities			On loans				On securities			On loans		
	Total	Profits on securities sold or redeemed	Recoveries	Transfers from valuation reserves	Recoveries	Transfers from valuation reserves	All other	Total	Losses on securities sold	Chargeoffs on securities not sold	Transfers to valuation reserves	Chargeoffs	Transfers to valuation reserves	All other
United States	$194,055	$50,401	$1,535	$41,128	$8,950	$35,368	$56,673	$676,330	$49,104	$4,017	$41,058	$16,557	$483,442	$82,152
Alabama	1,586	1,082	1	7	148	118	230	6,480	180	29	100	228	5,174	769
Alaska	405	369	0	0	0	0	36	776	14	0	6	0	624	132
Arizona	3,337	649	64	1,819	3	0	802	7,749	81	0	686	0	6,494	488
Arkansas	571	325	17	2	111	7	109	3,044	94	50	125	400	1,911	464
California	18,572	7,880	21	7,026	492	25	3,128	77,128	2,097	3	5,550	939	57,014	11,525
Colorado	2,590	538	70	181	251	15	1,535	7,395	244	70	231	1,251	4,771	828
Connecticut	2,646	298	0	300	5	199	1,844	6,923	52	0	115	5	4,762	1,989
Delaware	19	0	0	0	16	0	3	54	2	1	0	44	0	7
District of Columbia	553	27	0	0	77	0	449	3,829	421	13	0	123	2,866	406
Florida	3,647	582	39	108	176	747	1,995	20,159	915	201	22	1,818	14,994	2,209
Georgia	1,253	358	1	48	11	59	776	10,546	319	13	13	45	8,467	1,689
Hawaii	212	15	0	0	0	0	197	713	142	0	0	0	420	151
Idaho	120	16	5	12	5	0	82	1,195	396	2	0	5	710	82
Illinois	23,152	9,126	138	3,770	333	5,511	4,274	53,294	6,883	476	7,714	659	31,204	6,358
Indiana	9,459	925	19	4,830	140	275	3,270	19,837	2,448	93	3,666	218	10,013	3,399
Iowa	867	270	10	54	24	289	220	3,124	317	57	20	50	1,817	863
Kansas	1,481	379	106	63	260	128	545	5,603	190	131	131	709	3,406	1,036
Kentucky	2,784	739	11	178	116	463	1,277	5,426	175	97	616	177	3,394	967
Louisiana	2,354	1,114	40	667	157	99	277	7,980	203	71	591	307	5,871	937
Maine	186	23	7	30	40	11	75	1,738	368	11	60	21	1,073	205
Maryland	748	177	8	13	74	195	281	8,357	1,170	22	360	96	5,600	1,109
Massachusetts	5,761	603	55	1,445	157	698	2,803	23,486	3,986	26	1,339	148	12,106	5,881
Michigan	13,181	955	61	77	57	646	11,385	30,560	4,465	48	5,537	64	18,232	5,214
Minnesota	4,085	330	210	320	268	2,250	707	12,020	1,212	255	14	282	9,666	591
Mississippi	994	306	2	36	49	45	556	4,366	159	34	745	45	2,758	625
Missouri	7,234	1,274	39	2,162	86	3,491	182	16,659	2,292	411	539	396	11,421	1,600
Montana	2,362	82	74	500	577	17	1,112	5,205	95	21	504	220	4,085	280
Nebraska	1,636	345	148	419	58	282	384	5,302	555	245	128	91	3,715	568
Nevada	3,617	2	0	2,781	0	0	834	2,548	0	0	1,195	0	1,138	215
New Hampshire	707	176	53	100	62	16	300	1,960	109	95	198	109	1,248	201
New Jersey	5,580	2,358	2	465	197	1,237	1,321	17,847	2,783	51	669	308	11,564	2,472
New Mexico	845	253	0	288	93	72	139	2,591	148	8	11	85	2,142	197
New York	13,971	3,795	60	1,195	1,065	1,344	6,512	124,017	1,663	168	712	757	110,088	10,629
North Carolina	2,153	558	5	6	10	1,315	259	5,560	191	53	23	21	4,598	674
North Dakota	432	66	1	0	12	67	286	931	27	25	0	16	685	178
Ohio	8,402	1,357	49	1,744	243	4,045	964	22,838	3,233	76	1,028	452	16,564	1,485
Oklahoma	2,647	1,523	6	21	698	39	360	10,804	541	56	104	1,453	8,036	614
Oregon	6,964	106	0	6,542	25	0	291	7,692	68	0	746	7	5,658	1,213
Pennsylvania	14,682	2,247	89	1,580	508	8,215	2,043	44,258	5,113	221	2,866	755	31,634	3,669
Rhode Island	352	89	0	0	8	200	55	1,057	16	0	201	0	575	265
South Carolina	1,627	1,343	0	0	16	0	268	1,615	32	17	25	18	1,238	285
South Dakota	157	39	0	0	31	4	83	738	36	7	6	47	558	84
Tennessee	3,933	3,111	44	405	44	45	284	9,371	2,183	311	250	81	5,685	861
Texas	7,312	1,995	37	345	1,783	1,008	2,144	40,486	2,575	362	3,083	2,928	27,526	4,012
Utah	135	27	0	0	44	0	64	1,966	451	0	0	122	1,278	115
Vermont	233	78	1	25	34	10	85	774	129	7	25	55	474	84
Virginia	2,768	353	3	516	143	1,404	349	11,853	1,022	40	421	575	8,445	1,350
Washington	2,707	739	31	850	42	417	628	10,363	1,362	8	502	71	6,657	1,763
West Virginia	956	297	3	37	97	289	243	2,374	204	72	17	143	1,700	238
Wisconsin	1,711	965	4	75	25	68	574	4,752	719	51	95	72	2,728	1,087
Wyoming	351	137	1	86	79	3	45	934	24	9	69	141	607	84
Virgin Islands	8	0	0	0	0	0	8	53	0	0	0	0	48	5
D.C.-all‡	998	282	0	0	116	27	573	5,456	502	14	0	260	4,018	662

* Not including recoveries credited to valuation reserves.
† Not including losses charged to valuation reserves.
‡ Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.
Note: Data may not add to totals because of rounding.

TABLE 6d

Income and expenses of national banks, by states, year ended December 31, 1965

(Dollar amounts in millions)

	Net income before related taxes	Taxes on net income		Net income before dividends	Cash dividends declared			Net income after dividends	Capital accounts*	Ratios	
		Federal	State		On common stock	On preferred stock	Total cash dividends declared			Net income before dividends to capital accounts (percent)	Total current operating expenses to total current operating revenue (percent)
United States	$1,999	$552	$60	$1,387	$682	$1	$683	$704	$16,112	8.61	74.44
Alabama	28	8	1	19	8	0	8	11	194	9.79	71.05
Alaska	5	2	—	3	—	0	—	3	14	21.43	70.59
Arizona	15	4	—	10	5	0	5	5	133	7.52	79.79
Arkansas	11	3	0	8	3	0	3	6	87	9.20	71.43
California	241	65	24	151	94	0	94	57	1,829	8.26	79.00
Colorado	19	5	1	12	7	0	7	5	179	6.70	79.65
Connecticut	19	4	2	13	7	0	7	7	147	8.84	75.79
Delaware	—	—	—	—	—	—	—	—	2	2.11	90.37
District of Columbia	15	6	0	9	4	0	4	4	101	8.91	68.33
Florida	38	13	0	25	12	—	12	14	420	5.95	77.50
Georgia	25	8	0	17	8	0	8	9	233	7.30	75.54
Hawaii	4	1	—	3	1	0	1	1	41	7.31	80.00
Idaho	10	3	1	6	3	0	3	3	46	13.04	70.27
Illinois	194	60	0	134	54	0	54	80	1,436	9.33	71.75
Indiana	45	14	0	31	11	0	11	20	342	9.06	72.82
Iowa	16	5	0	11	4	0	4	7	117	9.40	72.73
Kansas	23	6	1	16	6	—	6	10	170	9.41	67.86
Kentucky	17	6	0	11	5	0	5	7	128	8.59	69.70
Louisiana	28	9	0	19	7	—	7	11	226	8.41	70.69
Maine	5	1	0	3	2	0	2	2	43	6.98	70.83
Maryland	18	5	0	12	6	0	6	6	158	7.59	71.43
Massachusetts	72	24	5	43	25	0	25	18	510	8.43	66.54
Michigan	55	10	0	45	19	—	19	26	520	8.65	80.43
Minnesota	45	12	4	30	14	0	14	15	330	9.09	73.23
Mississippi	10	3	0	7	3	0	3	4	61	11.48	69.77
Missouri	41	13	1	27	14	0	14	13	357	7.56	69.46
Montana	5	2	—	3	2	0	2	1	44	6.82	71.87
Nebraska	19	6	0	13	5	—	5	8	142	9.15	71.05
Nevada	9	2	0	7	2	0	2	4	37	18.92	69.23
New Hampshire	5	2	0	3	1	0	1	2	44	6.82	70.83
New Jersey	58	13	0	44	20	—	20	25	477	9.22	76.82
New Mexico	7	2	0	5	2	0	2	2	51	9.80	77.78
New York	240	38	13	189	107	1	108	81	2,206	8.57	74.93
North Carolina	20	6	—	13	7	0	7	6	151	8.61	74.44
North Dakota	6	2	—	4	2	0	2	2	38	10.53	74.07
Ohio	98	31	0	67	28	—	28	39	737	9.09	72.48
Oklahoma	35	11	1	22	12	—	12	10	306	7.19	70.34
Oregon	27	5	2	20	9	0	9	11	185	10.81	79.55
Pennsylvania	141	32	0	110	57	—	57	53	1,294	8.50	73.57
Rhode Island		1	—	6	3	0	3	3	54	11.11	81.08
South Carolina		6	—	10	4	—	4	6	77	12.99	67.39
South Dakota		3	—	5	2	0	2	3	43	11.63	71.88
Tennessee	39	13	0	26	9	—	9	16	277	9.39	73.01
Texas	133	42	0	91	48	0	48	44	1,166	7.80	72.29
Utah	9	3	—	6	3	0	3	3	55	10.91	69.44
Vermont	2	1	—	2	1	—	1	1	24	8.33	80.00
Virginia	34	11	0	23	11	0	11	12	266	8.65	73.13
Washington	36	13	0	24	11	0	11	12	262	9.16	75.82
West Virginia	13	5	0	9	3	0	3	6	97	9.28	67.39
Wisconsin	29	8	2	19	9	0	9	10	216	8.80	74.80
Wyoming	4	2	0	3	1	0	1	2	36	8.33	76.19
Virgin Islands	—	—	0	—	0	0	0	—	2	9.17	75.34
D.C.-all†	31	13	0	18	8	0	8	9	176	10.23	68.47

* Represents aggregate book value of capital stock, surplus, undivided profits and reserves. Figures are average of amounts reported for the June and December call dates in the current year and the December call date in the previous year.
† Includes national and nonnational banks in the District of Columbed profits and reserves. Figures are averages of amounts reported for
Note: Data may not add to totals because of rounding. Dashes indicate amounts less than $500,000.

TABLE 7

Status of applications for national bank charters, and charters issued, January 1-March 31, 1966

Applications carried over from December 31, 1965	27
2 Conversions	
25 Primary	
Applications received January 1-March 31, 1966	32
11 Conversions	
21 Primary	
	59
Applications approved January 1-March 31, 1966	22
10 Conversions	
12 Primary	
Applications rejected January 1-March 31, 1966	5
0 Conversions	
5 Primary	
Applications abandoned January 1-March 31, 1966	1
1 Conversion	
0 Primary	
Applications pending as of March 31, 1966	31
2 Conversions	
29 Primary	
	59
• • •	
National banks chartered January 1-March 31, 1966	16
11 Conversions	
5 Primary	

TABLE 8

Status of applications for national bank charters*, and charters issued*, by states, January 1-March 31, 1966

	Received†	Approved	Rejected	Abandoned	Pending Mar. 31, 1966	Charters issued
United States	46	12	5	0	29	5
Alabama	1	0	0	0	1	0
Alaska	0	0	0	0	0	0
Arizona	0	0	0	0	0	0
Arkansas	0	0	0	0	0	0
California	1	1	0	0	0	0
Colorado	2	2	0	0	0	0
Connecticut	1	0	0	0	1	0
Delaware	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0
Florida	11	2	3	0	6	1
Georgia	2	0	0	0	2	0
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	1	1	0	0	0	0
Indiana	0	0	0	0	0	0
Iowa	1	0	0	0	1	0
Kansas	1	1	0	0	0	0
Kentucky	0	0	0	0	0	0
Louisiana	1	0	0	0	1	0
Maine	0	0	0	0	0	0
Maryland	1	0	0	0	1	0
Massachusetts	0	0	0	0	0	0
Michigan	2	1	0	0	1	0
Minnesota	1	0	0	0	1	0
Mississippi	2	0	1	0	1	0
Missouri	1	1	0	0	0	0
Montana	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0
Nevada	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	0
New Jersey	0	0	0	0	0	0
New Mexico	1	0	0	0	1	0
New York	2	0	0	0	2	1
North Carolina	1	0	0	0	1	0
North Dakota	0	0	0	0	0	0
Ohio	1	1	0	0	0	0
Oklahoma	0	0	0	0	0	0
Oregon	1	0	0	0	1	0
Pennsylvania	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0
South Carolina	1	1	0	0	0	0
South Dakota	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0
Texas	3	0	0	0	3	1
Utah	0	0	0	0	0	0
Vermont	0	0	0	0	0	0
Virginia	0	0	0	0	0	1
Washington	1	0	1	0	0	0
West Virginia	0	0	0	0	0	0
Wisconsin	4	1	0	0	3	1
Wyoming	0	0	0	0	0	0
Puerto Rico	1	0	0	0	1	0
Guam	1	0	0	0	1	0

* Excludes conversions.
† Includes applications pending as of December 31, 1965.

TABLE 9

Status of applications for conversion to national bank charters, and charters issued, by states, January 1-March 31, 1966

	Received*	Approved	Rejected	Abandoned	Pending Mar. 31, 1966	Charters issued
United States	13	10	0	1	2	11
Alabama	0	0	0	0	0	0
Alaska	0	0	0	0	0	0
Arizona	0	0	0	0	0	0
Arkansas	0	0	0	0	0	0
California	0	0	0	0	0	0
Colorado	0	0	0	0	0	0
Connecticut	1	1	0	0	0	0
Delaware	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0
Florida	1	0	0	0	1	1
Georgia	0	0	0	0	0	1
Hawaii	0	0	0	0	0	0
Idaho	0	0	0	0	0	0
Illinois	3	3	0	0	0	0
Indiana	0	0	0	0	0	0
Iowa	0	0	0	0	0	0
Kansas	0	0	0	0	0	1
Kentucky	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0
Maine	0	0	0	0	0	0
Maryland	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0
Michigan	1	1	0	0	0	1
Minnesota	1	1	0	0	0	1
Mississippi	0	0	0	0	0	0
Missouri	1	1	0	0	0	0
Montana	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0
Nevada	0	0	0	0	0	0
New Hampshire	0	0	0	0	0	0
New Jersey	1	1	0	0	0	2
New Mexico	0	0	0	0	0	0
New York	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0
North Dakota	0	0	0	0	0	0
Ohio	2	1	0	1	0	2
Oklahoma	0	0	0	0	0	0
Oregon	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0
South Carolina	1	0	0	0	1	0
South Dakota	1	1	0	0	0	1
Tennessee	0	0	0	0	0	0
Texas	0	0	0	0	0	0
Utah	0	0	0	0	0	0
Vermont	0	0	0	0	0	0
Virginia	0	0	0	0	0	1
Washington	0	0	0	0	0	0
West Virginia	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0
Wyoming	0	0	0	0	0	0

* Includes applications pending as of December 31, 1965.

TABLE 10

Status of de novo branch applications of national banks, by states, January 1-March 31, 1966

	Received*	Approved	Rejected	Abandoned	Pending Mar. 31, 1966
United States	480	163	34	7	276
Alabama	14	4	1	0	9
Alaska	1	1	0	0	0
Arizona	3	2	0	0	1
Arkansas	3	1	0	0	2
California	80	33	10	1	36
Colorado	0	0	0	0	0
Connecticut	5	2	0	0	3
Delaware	0	0	0	0	0
District of Columbia	2	1	0	1	0
Florida	0	0	0	0	0
Georgia	3	2	0	0	1
Hawaii	1	1	0	0	0
Idaho	2	0	0	1	1
Illinois	0	0	0	0	0
Indiana	15	11	1	0	3
Iowa	5	2	1	0	2
Kansas	1	0	0	0	1
Kentucky	4	0	0	0	4
Louisiana	6	3	1	0	2
Maine	4	2	0	0	2
Maryland	16	0	4	0	12
Massachusetts	12	6	0	0	6
Michigan	25	10	0	0	15
Minnesota	0	0	0	0	0
Mississippi	9	4	0	0	5
Missouri	2	1	0	1	0
Montana	0	0	0	0	0
Nebraska	1	0	0	0	1
Nevada	0	0	0	0	0
New Hampshire	4	1	0	0	3
New Jersey	24	12	1	0	11
New Mexico	2	2	0	0	0
New York	49	8	7	1	33
North Carolina	19	7	0	1	11
North Dakota	2	0	0	0	2
Ohio	20	9	2	0	9
Oklahoma	0	0	0	0	0
Oregon	2	1	0	0	1
Pennsylvania	35	15	4	1	15
Rhode Island	2	1	0	0	1
South Carolina	10	4	1	0	5
South Dakota	0	0	0	0	0
Tennessee	9	6	0	0	3
Texas	0	0	0	0	0
Utah	2	0	0	0	2
Vermont	1	0	0	0	1
Virginia	11	3	1	0	7
Washington	18	6	0	0	12
West Virginia	0	0	0	0	0
Wisconsin	54	1	0	0	53
Wyoming	0	0	0	0	0
Virgin Islands	2	1	0	0	1
D.C.-all†	4	1	0	1	2

* Includes applications pending as of December 31, 1965.

† Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

TABLE 11

Branches of national banks: in operation December 31, 1965; opened, discontinued, or consolidated, January 1-March 31, 1966; and branches in operation March 31, 1966

	Branches in operation Dec. 31, 1965	De novo branches opened for business Jan. 1-Mar. 31, 1966	Branches acquired through merger or conversion Jan. 1-Mar. 31, 1966	Existing branches discontinued or consolidated Jan. 1-Mar. 31, 1966	Branches in operation Mar. 31, 1966
United States	8,756	119	69	9	8,935
Alabama	123	4	0	0	127
Alaska	40	0	0	0	40
Arizona	173	1	0	0	174
Arkansas	57	1	0	0	58
California	1,742	11	0	5	1,748
Colorado	0	0	0	0	0
Connecticut	167	2	0	0	169
Delaware	4	0	0	0	4
District of Columbia	47	0	0	0	47
Florida	0	0	0	0	0
Georgia	120	0	0	0	120
Hawaii	40	0	0	0	40
Idaho	94	1	0	0	95
Illinois	0	0	0	0	0
Indiana	254	2	0	0	256
Iowa	28	4	1	0	33
Kansas	23	0	0	0	23
Kentucky	118	3	0	0	121
Louisiana	130	5	0	0	135
Maine	69	0	0	0	69
Maryland	186	3	0	0	189
Massachusetts	319	5	1	0	325
Michigan	397	7	22	0	426
Minnesota	6	0	0	0	6
Mississippi	64	4	15	0	83
Missouri	18	0	0	0	18
Montana	0	0	0	0	0
Nebraska	17	0	0	0	17
Nevada	32	1	0	0	33
New Hampshire	22	1	0	0	23
New Jersey	419	5	8	0	432
New Mexico	52	1	0	0	53
New York	954	12	0	0	966
North Carolina	261	3	0	1	263
North Dakota	5	0	0	0	5
Ohio	515	6	10	0	531
Oklahoma	25	2	0	0	27
Oregon	209	3	0	0	212
Pennsylvania	783	13	2	1	797
Rhode Island	53	0	0	0	53
South Carolina	176	0	0	0	176
South Dakota	37	1	0	0	38
Tennessee	200	8	0	0	208
Texas	0	0	0	0	0
Utah	55	1	0	1	55
Vermont	31	2	0	1	32
Virginia	325	7	9	0	341
Washington	340	0	1	0	341
West Virginia	0	0	0	0	0
Wisconsin	24	0	0	0	24
Wyoming	0	0	0	0	0
Virgin Islands	2	0	0	0	2
D.C.-all*	82	1	0	0	83

*Includes national and nonnational banks in the District of Columbia, all of which are supervised by the Comptroller of the Currency.

TABLE 12

De novo branches of national banks opened for business, by community size and size of bank, January 1-March 31, 1966

Category	Branches
In cities with population:	
Less than 5,000	38
5,000 to 24,999	40
25,000 to 49,999	6
50,000 to 99,999	11
100,000 to 249,999	10
250,000 to 499,999	6
500,000 to 1,000,000	3
Over 1,000,000	5
TOTAL	119
By banks with total resources (in millions of dollars)	
Less than $ 10.0	27
10.0 to 24.9	27
25.0 to 49.9	10
50.0 to 99.9	12
100.0 to 999.9	24
Over 1,000	19
TOTAL	119

TABLE 13

Mergers*, January 1-March 31, 1966

Applications carried over from December 31, 1965	7
Applications received January 1-March 31, 1966	27
Disposition of applications: January 1-March 31, 1966	
Approved	12
Disapproved	0
Withdrawn	0
Pending March 31, 1966	22
Transactions completed—Total	9
Mergers	6
Consolidations	1
Purchase of assets	2

The aggregate total of capital stock and capital accounts for certificates issued are as follows:

	Charter or purchasing bank	Merging consol., or selling bank	Combined
Capital stock	$ 35,130,530	$ 3,814,000	$ 39,699,850
Capital accounts	109,888,794	13,213,456	123,872,347

* Includes mergers, consolidations and purchase and sale transactions where the resulting bank is a national bank.

BOOK REVIEWS

Pension Funds: Measuring Investment Performance. By Peter O. Dietz. New York: The Macmillan Company, 1966. Pp. xvii + 166. $4.00.

In the past ten years, the book value assets of private noninsured pension funds have tripled to more than $50 billion. During 1964 alone, their receipts totaled $6.6 billion, while benefit payments were $1.7 billion. With more than 26 million covered employees, the need for safe and efficient management of these funds is self-evident.

Nor is the management responsibility of a noninsured pension fund limited to meeting the actuarial assumptions of its commitment to policyholders. Ultimately, outlays for pension fund contributions appear as a cost of doing business for the contributing corporation. As such, the investment performance of noninsured pension funds may significantly influence the level of profits as well as the competitive position of corporations which self-insure their retirement and worker benefit programs.

On a broader basis, the financial community has long lacked an efficient, clear-cut, and objective yardstick of investment performance whether it be for pension funds, mutual funds, insurance company assets, or other trusted assets. With more than $300 billion under their care, and with fees appropriate to their responsibility, these fund managers have too long avoided the scrutiny of a standardized measure of investment performance. Dr. Dietz has taken a major step forward in closing this gap. Fund holders as well as fund managers should benefit significantly from his work.

While investment objectives may vary among funds as to expected return, liquidity, and risk, Dr. Dietz has developed a consistent and practical model for comparing investment results. Portfolio management is broken down into three major categories: (1) strategic decisions, (2) tactics, and (3) timing.

Strategic decisions are those involved in the allocation of assets among different types of investments in order to produce the desired balance of liquidity, return, and risk. *Tactical decisions* are those made in the selection of specific securities to carry out broad policy objectives. *Timing decisions* are those measuring the adaptability of investment policy to changing conditions in the economy and in the capital markets.

Return on investment is measured by adapting the standard formula used by the Securities and Exchange Commission and the life insurance industry to one including realized and unrealized gains and losses as well as ordinary investment income. The investment base is market value as opposed to book value.

Risk is measured as the standard deviation of the average rate of return. A general rule for evaluating strategic decisions is as follows: For any given average rate of return, the portfolio which provides the least standard deviation is best; and for any given standard deviation, the portfolio which provides the highest average return is best. That portfolio with the lowest standard deviation for a given average rate of return is "efficient" in accordance with Markowitz's terminology.

Funds are ranked according to their average returns and standard deviations. Weights are then applied based on different risk/return preference ratios. For the various ratios so specified, it is possible to give an ordinal ranking to the strategic decision-making performance of each portfolio. A measure of performance has therefore been developed which incorporates varying investment objectives. The old excuse that "you can't compare different funds because investment objectives differ" no longer applies.

Tactical decisions measure the performance of investments made in each major segment of the portfolio without regard to investment timing. Separate measures of performance are computed for the fixed and variable portions of the portfolio for varying time spans. The measures thus developed can be compared with other portfolios (internal yardstick) and with one or more market indicators (external yardstick).

The same rate of return formulas used in measuring strategic decisions are also used in measuring tactical decisions, although they are used differently. Whereas strategic decisions are measured by the average rate

of return from period m through n for any given risk level, tactical decisions are measured by compounding the rate of return figures from period m to n in order to compute the value in period n of an investment made in period m. A continuing measure is provided, therefore, independent of timing, in the form of a rate of return matrix which shows how good the trustee's security selection was with the assets he had at any particular moment of time.

Timing decisions are considered in the special sense of decisions made regarding the percentage of new purchases of fixed as opposed to variable investments. Dietz argues that ordinary concepts of timing such as the ratio of short- to long-term bonds, different industry choices, and individual security choices are adequately covered in the tactics measure.

He therefore measures timing by constructing an index of relative aggressiveness towards stocks, which compares the percentage of new permanent investments in variable securities as a percentage of the overall portfolio percentage of such securities.

As must be the case, Dietz's measures do not constitute absolute standards for measuring investment performance. They do not include a truly comprehensive measure of investment performance in that they exclude the costs (research and manager's salary) of the various investment results being compared. Nor do they enable the portfolio manager to evaluate current results against expected results.

Nonetheless, Dietz has made a significant contribution to the important problem of evaluating portfolio performance. With the great growth in assets of trusteed funds, the development of such measures has been long overdue. The gradual computerization of portfolios which lies ahead, together with Dietz's evaluation model, offers insurance companies, pension and mutual fund managers, and other asset trustees the first practical, down-to-earth, and understandable means of comparing their own past investment performance with that of their competitors.

DAVID G. FUNK

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Growth and Structure in the Economy of Modern Italy. By George H. Hildebrand. Cambridge: Harvard University Press, 1965. Pp. xx + 474.

There is much need for a book that provides an authoritative assessment of Italian economic history after the Second World War. Some of its aspects have been analyzed in monographs and articles, but a comprehensive treatment of the matter has still to appear.

Mr. Hildebrand obviously set out to write such a book; unfortunately, his efforts are not entirely satisfactory. The book is a piece of "middlebrow literature," a chatty bowdlerization of more learned works on the same subject, but acceptable, perhaps, to the educated, nonspecialized public.

The fact that it does not stand on foundations of original research would not deprive the book of value, had the author furnished his readers with a panoramic survey of the existing literature on the subject, critically appraised, in an attempt to solve the various disputes that have flourished on the interpretation of several facets of recent Italian economic history. On the contrary, he shows a strong tendency to relate uncritically the sound of only one bell: Mrs. Vera Lutz and the Banca d'Italia's "interpretratio authentica" of its own conduct.

In a chapter dedicated to the analysis of the events that led to the credit squeeze of 1947, the author supinely accepts the official view that maintains that the policy adopted was the only one possible, and that it laid the foundations of the successive "Italian miracle." Although he relates that the credit inflation was already in its decreasing phase when the restrictive measures were introduced, he does not add that the measures were adopted only to save the lira, as international reserves had been exhausted. That this was in fact the motive behind these measures is authoritatively stated in an essay on Einaudi's policy by Piero Baffi published in the *Cahiers Wilfredo Pareto* in 1963. Moreover, Hildebrand does not mention what many observers suggested as a possible alternative to credit deflation—the procurement of a large international loan to shore up the lira without sacrificing growth (he might have noted in this respect

Sergio Steve's statement of this proposal, in the *Proceedings* of the First Conference of the Consigli Economici Nazionali, May 1947.)

He accepts the official version on the so-called "Keynesian dispute," about the existence of excess capacity in Italian industry in the same period, and accordingly ridicules the opinions expressed in the country study of the Economic Cooperation Administration. He might have convinced himself of the poignancy of these opinions had he read Diamond's appraisal of Italian industrial capacity, published in May 1947 as an Operational Paper of UNRRA. Neither does he dispute the official interpretation of the 1947 credit squeeze, which refuses to admit that it resulted in two and one-half years of stagnation of investments and industrial production. He supports this view by the specious quotation of production levels, while what matters are the rates of change, for one might expect any country in a full reconstructive phase to show a marked upward trend in its production figures.

The author's appraisal of the two major credit squeezes operated by the Italian authorities in the last twenty years should also be noted here. While, as has been mentioned, Hildebrand spares no praise concerning the one of 1947, he says about that of 1963: "The ultimate test of the *apertura* will be its ability to end inflation without sacrifice of adequate growth, and to carry on a long term program for the development and integration of the nation's backward regions." On the basis of both these standards, he should have judged the policy inaugurated in September 1947, and continued for several years in spite of the availability of large foreign aid, to be abysmally deficient. He has evidently given little thought to the effects that this policy would have undoubtedly yielded had the Korean boom and Marshall Aid not intervened to boost the Italian economy.

He maintains that "at no time were the Italian authorities bemused by the idea of budgetary balance as the one fiscal objective" (p. 98). And his attribution of the ensuing Italian boom to the activities of the Italian authorities in the years 1947-50 reminds one of Chanteclair, the Rabelaisian cock, who believed that its crowing made the sun rise every morning. On the other hand, he dedicates very little attention to the one very important policy measure that the authorities undertook in those years, i.e., the liberalization of Italian trade with the OEEC countries, which freed Italian industry of the protectionist cloak of the thirties and partly counterbalanced its monopolistic tendencies.

On more recent developments the book is also defective. While an understanding of the Italian recourse to the Euro-dollar market, a method of monetary management in many ways peculiar to Italy, is indispensable to an interpretration of modern Italian economic history, Hildebrand offers only a scanty treatment of this subject. Indeed, although the author is writing in the autumn of 1964, he describes the credit squeeze of September 1963 in a footnote at the end of the book and affirms to believe that its effects were modest. He might have derived a contrary view, however, had he looked at the indexes of industrial production, employment, and investment for the first six months of 1964.

The sections of the book dedicated to the Italian labor movement, although they ought to be Mr. Hildebrand's "piece de resistance," are the weakest of all. Although it is known "lippis et tonsoribus" that till 1961 wages in Italy lagged substantially behind productivity, the author states: "The union syndicates set the wage policy for the inner sector. Their aim is rapid increases in wages and supplements for their already employed members. Whatever their public professions, in practice they are not governed by national considerations of increased employment, overall modernization and development, or a more balanced distribution of factor incomes" (page 379). How these strong and greedy unions have allowed wages to lag behind productivity for such a long period he does not explain. On the contrary, he proceeds to regale the reader with an even more sweeping, and even less credible, generalization:

> . . . over a third of the electorate is alienated from all government, voting as *protestatari per natura* for any party that stands no chance of participating in these coalitions. During the postwar years, the two great organizations of the permanent opposition—the communists and their long time allies, the socialists—have been the chief beneficiaries of this negative sentiment (page 410).

It would be extremely interesting to know by what method of quantitative analysis Mr. Hildebrand has arrived at this precise figure of the proportion of Italians who are "politically alienated."

The analytical sloppiness which characterizes Mr. Hildebrand's book permeates even the statistical tables that are given as a complement to the text. In Table 3 "Components of the Money Supply," the author puts "cashier's checks" under the heading "Currency" although they are bank deposits. In the figures for "hand to hand currency" he does not include Treasury notes and coins, although data on them are readily available. He also calls vault cash the item "cassa" of Italian banks' balance sheets, although it is known that before 1950 it included many noncash items (and Table 3 includes just the period before 1950). In the same table, the heading "quarterly rates of increase" of the components of the money supply appears over a series of figures that are first differences between quarters, while for the money supply as a whole levels at different quarters are listed.

In Table 7 (another presentation of the components of the money supply between 1947 and 1949), the author gives figures for "cashier's checks" obtained by interpolation, although the actual figures are available in official sources. In Table 8, to present the situation in industrial production, prices, and unemployment before and after the stabilization measures of September 1947, he gives figures for nine quarters after the stabilization measures and for only one quarter before the stabilization (although data for 1946 exist.)

In conclusion, it must unfortunately be said that Mr. Hildebrand's book on the economy of modern Italy is a great disappointment.

MARCELLO DE CECCO

Chicago, Ill.

California Banking in a Growing Economy: 1946-1975. Ed. Hyman P. Minsky. Berkeley, California: Institute of Business and Economic Research, University of California Press, 1965. Pp. vii + 356. $6.00

A study of California banking over the period 1946-75 commands interest for four reasons and prompts several questions.

(1) During most of the first 15-year period, California's growth rate substantially exceeded that of the economy as a whole. What were the financial processes required to support this growth?

(2) It is expected that the growth in the second 15-year segment of the period studied will be lower than during the first. How will the financial mechanism be affected by a changed rate of growth?

(3) California is characterized by a statewide branch banking and by high concentration ratios when calculated under some assumptions. What is the nature of bank performance under such a banking structure?

(4) Studies of bank systems in individual regions improve our knowledge of the banking processes.

The challenging intellectual problem presented by California centers on the relationship formulated by Professor Minsky. In an area in which the labor force is growing by 3 percent a year, the capital stock must also increase annually by 3 percent to keep pace with the growth in the labor force. Given a 4 to 1 capital income ratio, Minsky concludes that: "Investent equal to 12 percent of the region's income must take place" (p. 84). But the region is part of an economy that is saving and investing only 8 percent of its annual income. As a result, capital equal to 4 percent of the area's income must be imported. One-third of the investment placed in the region must be financed from outside.

Since the region must be a capital-import region, the problem of financing the capital imports must be resolved. Minsky suggests that the monetary behavior of a region of a country is analogous to a nation under a very strict international gold standard (p. 7). However, he observes that factors of production can flow more readily between the regions of a country than between independent nations. In addition, national government

taxing and spending programs can shift reserves among regions of a nation.

A rapidly growing sector is likely to run an adverse balance on trade. However, this may be more than offset by capital flows since the rapidly growing area may provide attractive profit opportunities. In California's case, the rapid growth was associated with a number of leading sectors. The demand for the products of the leading sectors must have a high-income elasticity of demand from the nation as a whole. Minsky points to a high-income elasticity of demand for California's climate, its retirement and vacation attractions, and its specialty foodstuffs. In addition, after 1950 the national government was spending more in California than it was raising in taxation. According to Minsky's estimates, in the years 1958-60, the excess of Federal expenditures over Federal tax revenues raised in California was on the order of magnitude of $2-2.5 billion per year. Net Federal spending in California augmented the reserves of the California banking system to support the growth in loans and deposits during the period. In addition, capital imports came from various sources.

Minsky uses Grebler's estimate that 38.5 percent of funds invested in nonfarm real estate and mortgages came from outside California as of the end of 1960. He estimates that 18.5 percent of deposits in savings and loan associations in California were from out of state. It is assumed that one-half of state and local bonded indebtedness and of private debt was sold outside the state. But Minsky goes on to conclude that there are still gaps in our knowledge of capital flows for a developing region. He points specifically to the need for additional knowledge of how private business borrows out of state, the extent of direct investment in California by out-of-state firms, and the extent to which funds are brought by migrants into California (p. 124).

Minsky observes that for the nation as a whole, the money supply may be regarded as an exogeneous policy variable. But while the growth in the money supply may be set at a specified rate for the national economy, for a rapidly growing region it must adjust to the income growth in that region. Minsky concludes that "the money supply of a region is endogenously determined; it is not a policy variable. Thus it is necessary for a rapidly growing region, embedded in a country, to run a surplus in its balance of payments with the rest of the country large enough to make its money supply grow with the requisite speed" (p. 7).

The other papers included in the study attemp to analyze the characteristics of California banking that affect its influence on the banking system of the nation.

Roland Robinson sets five criteria for judging bank performance: efficiency, measured by cost, earnings, and profits; credit allocation; stability; efficiency in capital importation; and adequate competition. These criteria are applied in varying degrees in the papers that follow.

Since liquidity may influence the ability of the commercial banking system to aid the economy in adjusting to change, Richard E. Towey and Robert Lindsay analyze the liquidity of California banks. They find that California banks are less liquid in that they hold smaller proportions of primary reserves, net balances at correspondents, and a lower ratio of Treasury debt and government obligations to total assets. California commercial banks also hold higher ratios of loans to assets, and a higher ratio of real estate loans to total loans than banks in the rest of the United States. However, it is also true that California banks borrow less from the Federal Reserve System and have been net lenders in the Federal funds market.

If California banks are less liquid, this fact is explained by three structural characteristics of the banks—large size, the presence of branch banking, and the high ratio of time deposits to demand deposits—and a dominating attribute of the California economy, the higher rate of growth in California and in its banking assets as a whole.

Frederick P. Morrissey discusses the allocation of funds by California commercial banks. He observes that deposits at California banks during the 1946-63 period grew at an annual rate of 5.2 percent compounded. This compares with a 4.2 percent per annum figure for all U.S. banks. Particularly striking is the growth in loans of more than 11 percent per annum.

By 1961 the amount of time deposits exceeded the amount of demand deposits at

California commercial banks. In contrast, in 1961 for the U.S. as a whole, the ratio of time deposits to demand deposits was only about 50 percent. The greater ratio of time deposits to demand deposits for California banks probably resulted from the earlier efforts of these banks, in competition with savings and loan associations, to obtain time deposits. In addition, California banks stayed closer to the maximum permitted under Regulation Q than did U.S. banks, and attracted time deposits from outside the state. Finally, it is possible that the large branch systems of California banks more effectively mobilized savings deposits from small savers in California itself.

Morrissey presents a systematic analysis of the comparison between asset composition of California commercial banks and the U.S. as a whole. The ratio of cash and balances with other banks to total assets was about 15 percent for both California and the United States in 1963. The ratio of U.S. Government obligations to total assets was about 16 percent for California, compared with 19 percent for all U.S. banks. Investments in other securities were 10 percent for both groups. The ratio of loans to total assets for California commercial banks was almost 57 percent, while the corresponding figure for the U.S. as a whole was only 54 percent. For Illinois banks the ratio was only 48 percent.

During the period of Morrissey's study, 1946-63, real estate loans rose from 10 percent of total assets to almost 20 percent. During this same period, commercial and industrial loans rose from about 9 percent of total assets to about 16 percent. Loans to individuals rose from about 2½ percent to more than 10 percent. Morrissey also noted that the large banks in the West lend more than large banks in the East to small firms in their respective areas.

Using Morrissey's figures to compare the previous 12 years with the 12 years projected, some interesting trends emerge. Between 1951 and 1963, total assets in California commercial banks more than doubled, growing from about $15 billion to $33 billion. For the 1963-75 period, total assets are expected to not quite double. During the 12 years through 1963, loans tripled, rising from about $6 billion to $18 billion. They are expected only to double by 1975. Commercial loans and consumer installment loans are expected to grow relatively faster than total assets, while real estate loans are expected to grow at a slower rate. In 1951, commercial loans were only 40 percent of total loans; in 1975 they will approximately be more than 50 percent of total loans. Real estate loans, which were 46 percent of total loans in 1951 and about 35 percent in 1963, will be about 30 percent of total loans in 1975. Time deposits are expected to comprise 61 percent of total deposits in 1975.

Albert H. Schaaf analyzes mortgage investment by California banks. He observes that the outstanding feature in this area has been that California commercial banks' share of the mortgage market declined from about 50 percent in 1945 to about 20 percent in 1963. Within this overall pattern, the banks' share of consumer installment credit for repair and modernization loans has remained over the 75 percent level. Schaaf estimates that total mortgage debt in California will be about $80 billion in 1975, about double the 1963 total of $41 billion. This projection assumes continued growth in the California economy, including growth in housing.

Paul F. Wendt analzes the factors affecting bank earnings and capital requirements and makes an econometric analysis of factors influencing income and costs. He expects the rate of growth of gross operating revenues to drop to 5.2 percent, approximately one-half the previous growth rate of 10.8 percent per annum. This projected lower rate of growth in gross operating revenues results from the nature of the regression equation Wendt employs. Until 1958, most observations fall below this linear regression line of best fit and after 1958 all the observations lie above the line. This, plus the lower rate of growth forecast for personal income, results in a lower rate of projected growth of gross operating revenues.

While current operating revenues and wages and salary costs are expected approximately to double during the period 1962-75, interest paid on deposits is expected to increase to 250 percent of the 1962 level. As a consequence, income before taxes will grow at a lower rate than gross operating revenue. Income before taxes, which had

grown at a 7.4 percent rate from 1946-62, is expected to grow at a 3.9 percent rate in the 1962-75 period. In addition, taxes are expected to continue to increase, so that profits after taxes are expected to grow at a still lower rate, about 3.5 percent per annum.

The increase in interest costs that Wendt postulates results solely from the projected higher ratio of time deposits to demand deposits. He assumes that interest rate levels will be about the same as in the 1946-62 period. Thus, if interest rate levels also increases, net income before taxes will not grow as fast as 3.9 percent unless gross operating revenues keep pace with the increase in interest rate levels.

If the ratio of capital to deposits remains stable at 7½ percent, total bank capital requirements would approximate $4 billion in 1975. During the 1946-62 period, about three-quarters of total new bank capital was provided through internal sources and only one-quarter through new stock issues. But while total bank assets and deposits are expected to grow at about a 6 percent rate for the 1962-75 period, net income after taxes is expected to grow only at a 3½ percent rate. Thus, net income after taxes will provide a smaller proportion of new bank capital than it provided in the previous 12-year period, assuming no change in dividend payout ratios. Wendt recommends, therefore, that preferred stock and debentures provide some of the needed additional capital.

Richard E. Towey analyzes the behavior of the payments mechanism in California banking. He points out that the velocity of demand deposits has increased greatly over the period, primarily because of the rise in interest rates and the development of methods of economizing on the size of demand deposit balances. Towey observes that it is a commonly held view that administrative costs of the payments activity are borne by the banks themselves. They use this as a loss leader to attempt to acquire earning assets in the form of deposits. Thus the incentive for banks to seek low-cost means of operating the payments mechanism has been strong. In a sample of small- and medium-size banks, it was found that over half of operating expenses, other than interest on time deposits, is the result of operating the payments functions. With the increased use of the computer, there may be economies of scale in conducting the payments mechanism. Towey also notes that there are many methods by which small- and medium-size banks would be able to purchase computer services on an economical basis.

David A. Alhadeff analyzes California banking and competition. During the period 1951-62, he observes that demand deposits held for transaction purposes come very close to being a unique service of commercial banks but that on the other hand, there are many alternatives to demand deposits held as a liquid reserve. In the loan and investment markets, California banks also face considerable competition.

Alhadeff analyzes the substantial regulatory barriers to competition, such as restrictions on entry. He observes that for a number of regulatory and other reasons, both the deposit and the loan and investment markets in which banks operate are characterized by considerable immobilities for both suppliers and demanders of funds. Alhadeff also discusses bank mergers and gives an excellent analysis of the limitations of data measuring concentration ratios.

The California experience provides an interesting commentary on the decision in the Philadelphia National Bank case, in which a 30 percent concentration ratio for the two largest banks in a 4-county market was presumed to imply undesirable behavior in the future. Alhadeff observes that the largest bank held 45 percent of total assets in California in 1951 and that this percentage declined to 41 percent by 1962. However, the largest eight banks in California held 81 percent of assets in 1951, and approximately 90 percent of assets in 1962. Professor Alhadeff's earlier studies indicate that a high degree of concentration has existed in California banking since the late 1930's. The impressive record of California banks in mobilizing the resources of the state and in facilitating the import of capital into California appears inconsistent with the presumed deleterious effects of high levels of concentration. But the concentration figures are meaningless because of the competition between banks and other financial institutions, and because financial markets in which banks operate are national and international as well as local in scope.

Alhadeff's studies show that in local California markets, concentration has been decreasing (at least when measured by the number of alternative choices). The correlation of these data with the performance of banks in California suggests that the only true markets in which economic concentration can be measured are local, rather than statewide.

In evaluating the contents of the volume, Minsky observes that one of its real gaps is the failure to analyze the role of the financial institutions competing with the commercial banks in the total financial processes which take place in the state. A wide range of institutions including savings and loan associations, insurance companies, sales finance companies, and the finance affiliates of manufacturing and retail firms all perform important roles in the financial markets. But this volume makes a useful beginning. A permanent research center for continuing study of this subject as recommended by the editor is called for.

J. FRED WESTON

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